Title	**Develop user and functional requirement specifications for automated industrial processes**		
Level	**5**	**Credits**	**5**

Purpose	This unit standard is intended for use in the training and assessment of process automation technicians in developing techniques to analyse control requirements for automated industrial process plant. People credited with this unit standard are able to: – explain the purpose of user and functional specifications for the defining of automated industrial processes; and – develop user and functional requirement specifications for automated industrial processes.

Classification	Industrial Measurement and Control > Industrial Measurement and Control - Theory

Available grade	Achieved

Guidance Information

1 References
AS/NZS 3000:2007, *Electrical installations (*known as *the Australian/New Zealand Wiring Rules*), including Amendment 1;
Electricity Act 1992;
Electricity (Safety) Regulations 2010;
IEC 60848:2013 *GRAFCET specification language for sequential function charts;*
IEC 61131-3:2013 *Part 3: Programming languages;*
and all subsequent amendments and replacements.

2 Definition
Industry practice – those practices that competent practitioners within the industry recognise as current industry best practice.

3 The intention of this unit standard is not to produce programming software for automated control of industrial processes but to develop the planning and design skills required for technicians to produce structured function requirement specifications for an industrial process.

4 Recommended skills and knowledge: It is expected that candidates for assessment against this unit standard will already have achieved an electrical qualification such as the New Zealand Certificate in Industrial Measurement and Control (Theory) (Level 4) [Ref 2252], New Zealand Certificate in Industrial Measurement and Control (Practice) (Level 4) [Ref: 2251], New Zealand Certificate in Electrical Engineering

Theory and Practice (Trade) (Level 4) [Ref: 2388], New Zealand Diploma in Engineering (Level 6) [Ref: 112950], or demonstrate equivalent or higher skills and knowledge.

Alternatively, candidates may have skills and knowledge associated with mechanical installation and maintenance of automated systems.

Outcomes and performance criteria

Outcome 1

Explain the purpose of user and functional specifications for the defining of automated industrial processes.

Performance criteria

1.1 Explain the purpose of a user requirement specification (URS) for an automated industrial process.

Range may include but is not limited to – system function, operability, applicable standards, operating environment, equipment required, timeframes, testing, process, machine and operator safety.

1.2 Explain the purpose of a functional requirement specification (FRS) for an automated industrial process.

Range may include but is not limited to – functionality, operational steps, transition steps, operator actions and interface, data manipulation, control function modules, safety actions, functionality, expandability.

1.3 Describe formats that can be used for development of functional requirement specifications, and the advantages and disadvantages of each format are evaluated.

Range may include but is not limited to – block diagrams, functional process diagrams, text-based functional description, Grafcet IEC 60848, IEC 61131-3;
evidence of two required.

Outcome 2

Develop user and functional requirement specifications for automated industrial processes.

Range evidence of user and functional requirement specifications for two industrial processes is required.

Performance criteria

2.1 Develop user and functional requirement specifications and associated documentation for automated processes in accordance with customer user requirements and industry practice.

Range Grafcet IEC 60848, IEC 61131-3, functional description.

This unit standard is expiring. Assessment against the 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	12 December 2013	31 December 2027
Rollover and Revision	2	28 June 2018	31 December 2027
Review	3	30 January 2025	31 December 2027

Consent and Moderation Requirements (CMR) reference	0003

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