

## National Certificate in Engineering and Technology (Pharmaceutical and Allied Products) (Level 2)

**Level** 2

**Credits** 109

### Purpose

The National Certificate in Engineering and Technology (Pharmaceutical and Allied Products) (Level 2) is a qualification designed to build on the skills and knowledge acquired in the National Certificate in Pharmaceutical and Allied Products Manufacturing (Level 1) [Ref: 1233] qualification. Holders of this certificate have commenced specialised engineering training for the pharmaceutical and allied products manufacturing sector, and will be working in roles such as plant services assistant or machine setting assistant.

The qualification comprises industry-specific compulsory skills and knowledge associated with Good Manufacturing Practice as defined in relevant legislation and regulations, quality control, manufacturing processes, and core engineering systems. This compulsory section is also underpinned by a large number of relevant mechanical engineering skills and knowledge. In the elective section of the qualification, individuals may select unit standards to provide generic skills and knowledge and/or further enhance their mechanical engineering skills and knowledge.

Certificate holders are encouraged to undertake further training towards the proposed National Certificate in Engineering and Technology (Pharmaceutical and Allied Products) (Level 3), for which this qualification will be a prerequisite.

### Special Notes

This qualification has a prerequisite qualification (see Requirements for Award of Qualification below). People who do not hold this prerequisite qualification should therefore expect to either complete it, or gain it by demonstration of equivalent knowledge and skills, prior to being awarded this qualification.

### Credit Range

	<b>Compulsory</b>	<b>Elective</b>
Level 1 credits	10	0-10
Level 2 or above credits	89	0-10
Minimum totals	99	10

## Requirements for Award of Qualification

This qualification will be awarded to people who have been awarded the National Certificate in Pharmaceutical and Allied Products Manufacturing (Level 1) [Ref: 1233] and met the requirements of the compulsory and elective sections of this qualification.

### Compulsory

All the standards listed are required.

### Elective

A minimum of 10 credits is required from the list of standards and domains.

#### Award of NQF Qualifications

Credit gained for a standard may be used only once to meet the requirements of this qualification.

Unit standards and achievement standards that are equivalent in outcome are mutually exclusive for the purpose of award. The table of mutually exclusive standards is provided in the Qualifications Authority *Rules and Procedures* publications available at [www.nzqa.govt.nz/ncea/](http://www.nzqa.govt.nz/ncea/).

Reviewed standards that continue to recognise the same overall outcome are registered as new versions and retain their identification number (Id). Any version of a standard with the same Id may be used to meet qualification requirements that list the Id and/or that specify the past or current classification of the standard.

## Detailed Qualification Requirements

### Compulsory

All the standards listed below are required.

Field                    Engineering and Technology  
 Subfield              Electrical Engineering  
 Domain                Core Electrical

Id	Title	Level	Credit
15848	Demonstrate knowledge of safeguards for use with portable electrical appliances	2	2
15851	Demonstrate knowledge of electrical safety and safe working practices for electrical workers	2	3
15852	Isolate and test low-voltage electrical subcircuits	2	2

Subfield              Mechanical Engineering  
 Domain                Engineering Core Skills

Id	Title	Level	Credit
2395	Select, use and care for, engineering hand tools	2	4
2396	Select, use and maintain portable hand held engineering power tools	2	4
21911	Demonstrate knowledge of safety on engineering worksites	2	1
21912	Apply safe working practices on an engineering worksite	2	2

Domain Engineering Drawing and Design

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
2430	Draw and interpret engineering sketches under supervision	2	4
2431	Draw and interpret engineering drawings under supervision	2	8
4434	Demonstrate knowledge of basic geometric form in engineering	1	1

Domain Engineering - Materials

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
20799	Demonstrate basic knowledge of engineering metals	2	4
20917	Demonstrate basic knowledge of engineering materials	2	2

Domain Engineering - Measurement

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
4432	Demonstrate knowledge of, and convert, units of measure used in engineering	2	2
4433	Select, use, and care for simple measuring devices used in engineering	1	2
4435	Select, use, and care for engineering dimensional measuring equipment	2	3

Domain Fluid Power - Hydraulics

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
20611	Demonstrate knowledge of hydraulics and hydraulic power systems	2	5

Domain Fluid Power - Pneumatics

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
20612	Demonstrate knowledge of pneumatics and pneumatic power systems	2	5

Domain Maintenance and Diagnostics in Mechanical Engineering

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
2397	Service machines and equipment	2	4
2398	Monitor, under supervision, the condition of machinery and equipment	3	4
2401	Safely shut down and isolate machines and equipment	3	3

Domain Welding

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
21907	Demonstrate and apply knowledge of safe welding procedures under supervision	2	3

Field Manufacturing

Subfield Pharmaceutical and Allied Products

Domain Pharmaceutical and Allied Products Manufacturing

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
21369	Demonstrate knowledge of solids processing for pharmaceutical and allied products manufacturing	2	4

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
21370	Demonstrate knowledge of liquids mixing for pharmaceutical and allied products manufacturing	2	2
21943	Demonstrate basic knowledge of engineering for pharmaceutical and allied products manufacturing	2	4
21944	Demonstrate knowledge of air quality for pharmaceutical and allied products manufacturing	2	3
21945	Demonstrate knowledge of water for manufacture of pharmaceutical and allied products	2	2

Domain Pharmaceutical and Allied Products Quality Assurance

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
21073	Apply current good manufacturing practice for pharmaceutical and allied products	2	3
21361	Demonstrate knowledge of quality control for pharmaceutical and allied products manufacturing	2	3

Field Sciences  
 Subfield Mathematics  
 Domain Algebra

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
5223	Use formulae and equations to solve problems	1	2
5226	Construct and use tables and graphs	1	2

Domain Measurement

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
5228	Take measurements and use calculations to solve measurement problems	1	3

Domain Trigonometry

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
5251	Choose and apply trigonometric methods to solve problems involving lengths and angles	2	3

**Elective**

A minimum of 10 credits is required from the following standards and/or domains.

Field Core Generic  
 Subfield Core Generic  
 Domain Self-management

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
7123	Demonstrate knowledge of problem solving and apply a problem solving technique to a problem	2	2

Field Engineering and Technology  
 Subfield Mechanical Engineering  
 Domain Engineering Drawing and Design

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
2432	Construct engineering plane geometric shapes under supervision	2	3

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
2433	Create simple engineering drawings using computer aided design (CAD) software	2	6

Domain Fluid Power - Hydraulics

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
20597	Make a hydraulic power system safe	2	4
20613	Maintain a hydraulic power system under supervision	2	5

Domain Fluid Power - Pneumatics

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
20598	Make a pneumatic power system safe	2	4
20614	Maintain a pneumatic power system under supervision	2	5

Field Humanities  
 Subfield Communication Skills  
 Domain Writing

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>
3492	Write a short report	2	3

<b>Field</b>	<b>Subfield</b>	<b>Domain</b>
Computing and Information Technology	Computing	Generic Computing
Humanities	Communications Skills	Interpersonal Communications

### NQF Registration Information

<b>Process</b>	<b>Version</b>	<b>Date</b>	<b>Last Date for Award</b>
Registration	1	March 2006	N/A

### Standard Setting Body

Competenz  
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 Email [info@competenz.org.nz](mailto:info@competenz.org.nz)  
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Any person or organisation may contribute to the review of this qualification by sending feedback to the standard setting body at the above address.

The review of this qualification is planned to take place in 2010.

## Other standard setting bodies whose standards are included in the qualification

Competenz  
 ElectroTechnology Industry Training Organisation Incorporated  
 NZQA

## Certification

The certificate will display the logos of the Qualifications Authority and Competenz Incorporated.

## Classification

This qualification is classified according to the NQF classification system and the New Zealand Standard Classification of Education (NZSCED) system as specified below.

NQF Classification		NZSCED	
Code	Description	Code	Description
79	Engineering and Technology	030199	Engineering and Related Technologies/Manufacturing, Engineering and Technology/Manufacturing Engineering and Technology not elsewhere classified

### Quality Management Systems

A recognised Quality Assurance Body must accredit providers and Industry Training Organisations before they can register credits from assessment against standards. Accredited providers and Industry Training Organisations assessing against standards must engage with the moderation system that applies to those standards. Accreditation requirements and the moderation system are outlined in the associated Accreditation and Moderation Action Plan (AMAP) for each standard.