

<b>Title</b>	<b>Explain basic atomic principles as applied to the electrotechnology industry</b>		
<b>Level</b>	<b>1</b>	<b>Credits</b>	<b>1</b>

<b>Purpose</b>	People credited with this unit standard are able to describe: <ul style="list-style-type: none"> <li>– the atomic and electrical relationship between protons, electrons, and neutrons</li> <li>– the formation of ions and molecules</li> <li>– movement of electrons.</li> </ul>
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<b>Classification</b>	Electrical Engineering > Core Electrical
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<b>Available grade</b>	Achieved
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### Guidance information

This unit standard has been developed for learning and assessment off-job.

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### Outcomes and Performance criteria

#### Outcome 1

Describe the atomic and electrical relationship between protons, electrons, and neutrons.

Range hydrogen or helium, copper or silicon.

#### Performance criteria

1.1 A sketch of an atom is developed to show the position of protons, electrons, and neutrons.

1.2 The electrical charge assigned to protons, electrons, and neutrons is stated.

#### Outcome 2

Describe the formation of ions and molecules.

#### Performance criteria

2.1 The electrical charge resulting from a gain or loss of electrons is explained.

Range anion, cation.

2.2 Sketches are developed to illustrate the formation of a molecule.

Range anion, cation, simple molecule.

### Outcome 3

Describe movement of electrons.

### Performance criteria

3.1 Movement of electrons is explained in terms of the process that occurs.

3.2 Causes of movement of electrons are stated and explained.

Range heat, friction, electromotive force (e.m.f.).

<b>Planned review date</b>	31 December 2028
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### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 April 1996	31 December 2013
Revision	2	3 April 2001	31 December 2013
Review	3	26 May 2005	31 December 2025
Rollover and Revision	4	15 March 2012	31 December 2025
Revision	5	15 January 2014	31 December 2025
Review	6	28 March 2024	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0003
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

### Comments on this unit standard

Please contact Waihangara Ara Rau Construction and Infrastructure Workforce Development Council [qualifications@WaihangaraAraRau.nz](mailto:qualifications@WaihangaraAraRau.nz) if you wish to suggest changes to the content of this unit standard.