

Title	Demonstrate knowledge of computing hardware, software and terminology to select digital tools for specified purposes		
Level	2	Credits	5

Purpose	<p>People credited with this unit standard are able to demonstrate knowledge of: common computing hardware components, concepts and terminology; common application and system software; simple network technologies, terminologies and concepts; and ergonomic principles for the safe operation of digital devices; and select the right digital tool for specified purposes.</p> <p>This unit standard has been developed primarily for assessment within programmes leading to the New Zealand Certificate in Computing (User Fundamentals) (Level 2) [Ref: 2591], and the New Zealand Certificate in Computing (Foundation User) (Level 2) [Ref: 4132].</p>
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Classification	Computing > Generic Computing
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Available grade	Achieved
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Guidance Information

- 1 Assessment, where applicable, will be conducted in and for the context of real or realistic situations and/or settings, and be relevant to current and/or emerging practice. The assessor may gather evidence over time from a range of scenarios rather than using one assessment where the learner has to demonstrate all of the required skills. Demonstration of knowledge can be oral, written, practical, and/or a combination, as appropriate to the assessment situation.
- 2 The purposes will be provided to the learner, and must be diverse and of sufficient complexity to provide scope for the assessment evidence.
- 3 **Definitions**
A device driver is system software that enables the operating system and applications to communicate with hardware devices, such as printers, soundcards, video cards, etc.
Digital devices refer to electronic computing devices that can receive, store, process or send digital information, such as computers (desktop or laptop), tablets, smartphones or other emerging digital technologies.
Digital tool refers to both hardware (digital devices) and software (applications and programs).
Hardware refers to the physical parts of digital devices, such as monitors, keyboards, printers, cards, memory, wiring, central processing unit (CPU), storage devices.

Network refers to a system of computers that are connected so they can exchange information and share resources.

Operating systems (OS) refers to the essential software which supports a computer's (or other digital device) basic functions, such as memory allocation, security, task scheduling, controlling peripheral devices, and provides services which support the execution of application software. OS may include but are not limited to Linux, Microsoft Windows, Mac OS, Android, iOS.

Software refers to the programs and other operating information used by a computer to perform its functions. Software is divided into two categories – *system software* which supports and controls the computer hardware (e.g. operating systems, device drivers, and utilities), and application software which is run by end-users to perform useful tasks.

- 4 Legislation and guidelines relevant to this unit standard include:

Copyright Act 1994

Copyright (New Technologies) Amendment Act 2008

Harmful Digital Communications Act 2015

Health and Safety at Work Act 2015

and any subsequent amendments.

Current legislation and regulations can be accessed at <http://legislation.govt.nz>.

- 5 Reference

ACC5637 Guidelines for Using Computers - Preventing and managing discomfort, pain and injury. Accident Compensation Corporation - Department of Labour, 2010; available from Worksafe New Zealand, at

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/guidelines-for-using-computers>.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of common computing hardware components, concepts and terminology.

Performance criteria

- 1.1 Common computing devices are identified and described in terms of type and function.

Range common computing devices may include but are not limited to at least three of – desktop PC, laptop, tablet, server, smartphones, wearable devices, IoT devices.

1.2 Components of a typical computing device are identified and described in terms of specifications and function.

Range typical computing devices include but are not limited to – CPU, ROM, RAM;
three different input devices (keyboard, barcode scanners, webcam, stylus, microphone, mouse, touch);
storage technologies (such as magnetic, optical, solid state); two output devices (such as printers, monitors, speakers).

1.3 Common interfaces and connectors are identified and described in terms of basic function.

Range includes but is not limited to – wireless interfaces such as network;
common input and output ports such as serial, video, audio, network;
at least three examples.

1.4 Common abbreviations and symbols related to digital devices are identified and explained.

Range includes but is not limited to at least two of each category –
storage capacity terminology: b, B, Kb/KB, MB, GB, TB;
speed terminology: ms/msec, μ s/ μ sec, ns/nsec;
data transfer rates: Kbps; Mbps; Gbps;
processor speed rates: kHz, MHz, GHz.

Outcome 2

Demonstrate knowledge of common application and system software.

Performance criteria

2.1 Common application and system software is identified and described in terms of its purpose, features, functions and interaction compatibility.

Range includes but is not limited to – operating system, device driver, backup software, anti-virus software, word processor, spreadsheet, database, browser.

Outcome 3

Demonstrate knowledge of simple network technologies, terminologies and concepts.

Performance criteria

3.1 Simple network technologies, terminologies and concepts are identified and described according to their purpose.

Range includes but is not limited to – network card (NIC); modem/router; wired, wireless and mobile technologies (e.g. 3G/4G/5G, WiFi, Bluetooth/RFID, NFC).

Outcome 4

Demonstrate knowledge of ergonomic principles for the safe operation of digital devices.

Performance criteria

- 4.1 Ergonomic principles are explained in terms of user physical well-being.
- Range includes two principles from each of – furniture and equipment; digital device hardware; postures and physical practices.
- 4.2 Ergonomic requirements are explained in terms of the environment.
- Range two of – space, housekeeping, atmospheric conditions, noise, lighting, décor, printer location.

Outcome 5

Select the right digital tool for specified purposes.

Range at least three different purposes.

Performance criteria

- 5.1 Digital devices and applications are selected and justified as appropriate to the specified purposes.

Replacement information	This unit standard and unit standard 29784 replaced unit standards 2780, 2783, 2790, 6743 and 18753.
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Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 January 2017	31 December 2024
Review	2	26 May 2022	N/A

Consent and Moderation Requirements (CMR) reference	0099
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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 Toi Mai Workforce Development Council qualifications@toimai.nz if you wish to suggest changes to the content of this unit standard.