

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

<b>Purpose</b>	<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; 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].</p>
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<b>Classification</b>	Computing > Generic Computing
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<b>Available grade</b>	Achieved
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### Explanatory notes

- 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
 

*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* refers 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 References

*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 evidence requirements

### Outcome 1

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

### Evidence requirements

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

Range may include but are not limited to at least three of – desktop PC, laptop, tablet, server, mobile hand-held/wearable devices.

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

Range includes but are not limited to – CPU, ROM, RAM, input devices (keyboard, barcode scanners, webcam, stylus, microphone, mouse, touch), storage technologies (magnetic, optical, solid state), output devices (printers, monitors, speakers).

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

Range includes but are 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 not limited to at least two of each category –  
*Basic storage units:* bit (b), byte (B);  
*Storage capacity terminology:* Kb/KB, MB, GB, TB;  
*Speed terminology:* millisecond (ms)/ microsecond (µs)/ nanosecond (ns);  
*Data transfer rates:* KBps, MBps; GBps;  
*Processor speed rates:* kHz, MHz, GHz.

## Outcome 2

Demonstrate knowledge of common application and system software.

### Evidence requirements

2.1 System and application 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.

### Evidence requirements

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

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

## Outcome 4

Demonstrate knowledge of ergonomic principles for the safe operation of digital devices according to current approved guidelines.

### Evidence requirements

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 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.

## Evidence requirements

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

<b>Replacement information</b>	This unit standard and unit standard 29784 replaced unit standard 2780, 2783, 2790, 6743 and 18753.
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<b>Planned review date</b>	31 December 2021
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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	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0226
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

## Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

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**Comments on this unit standard**

Please contact NZQA National Qualifications Services [nqs@nzqa.govt.nz](mailto:nqs@nzqa.govt.nz) if you wish to suggest changes to the content of this unit standard.