

Field **Computing and Information Technology**

Review of *Computing* unit standards

Subfield	Domain	ID
Computing	Computer Support	6836, 6852, 6869-6874, 18750, 18753, 18755, 26227
	Generic Computing	2780, 2781, 2783-2792, 2796, 2797, 5940, 5943, 5946-5948, 5951-5955, 5957, 5968, 6743, 6745-6748, 6750, 7910, 18734, 18742, 18743, 18756, 18758, 20332, 24872, 25655-25662, 25782, 26226, 26228-26230, 26744-26746
	Software Development - Programming	2795, 6761, 18739-18741

NZQA National Qualifications Services has completed the review of the 73 Computing unit standards listed above.

Date new versions published

January 2017

Planned review date

December 2021

Summary

The mandatory review of information and communication technology (ICT) qualifications, was completed with new NZ qualifications approved in April 2015. A suite of new and reviewed Computing unit standards was developed to align with the graduate profile outcomes in content and credit value for the following qualifications:

- NZ Certificate in Computing (User Fundamentals) (Level 2) (40 credits) [Ref: 2591]
- NZ Certificate in Computing (Intermediate User) (Level 3) (60 credits) [Ref: 2592]
- NZ Certificate in Computing (Advanced User) (Level 4) (60 credits) [Ref: 2593]
- NZ Certificate in Information Technology Essentials (Level 4) (60 credits) [Ref: 2594]

A proposed suite of 48 new standards at Levels 2 to 4 have been developed to ensure they align with the new qualifications, and there is one additional new standard at Level 5 as a result of the review of 73 current standards. The review resulted in changes to 26 existing Computing standards where necessary to ensure the standards remain current.

During mid-2015/16 a working group met to develop and review the standards, with members collectively having the necessary computing and IT skills and experience with target learners, qualification development, and unit standards assessment. The project was further informed by feedback from the email support network during the unit standard development and review process.

Key stakeholders and organisations with consent to assess have had the opportunity to review these units and offer feedback. The proposed standards were available to the wider computing and IT sector network for consultation and endorsement July/August 2016. All feedback was considered and actioned where appropriate.

Main changes

- Titles, levels, credits and content were updated in the new standards to reflect the requirements in the new qualifications and current practice.
- Computing suite of 75 unit standards total – 49 new standards, 26 current standards, 47 standards proposed to expire.
- 45 current unit standards were recommended for replacement by the new standards (Category C review), and a further two are proposed to expire (Category D review), as they duplicate content in the new standards.
- The expiry date is 31 December 2019 for 45 reviewed standards. Two additional standards, 2780 and 2784, are compulsory requirements for registered National qualifications and will expire 31 December 2020.
- 26 current standards are being retained with minor changes (Category B review). Reviewed current standard 18756 was 4 credits, now 3 credits. Standard 7910 was reworded to meet listing guidelines and to reflect current practice. Explanatory notes were clarified from feedback received, to better reflect intent and to update relevant legislation.
- 48 new standards have been designed to align with the new qualifications at Levels 2-4.
- One new standard 29817 was developed at Level 5 to replace standards 6873 and 6874.

Category C and D unit standards will expire 31 December 2019, to coincide with the expiry of the National qualifications in Computing, except standards 2780 and 2784 which will expire 31 December 2020.

Impact on existing organisations with consent to assess

Current consent for			Consent extended to		
Nature of consent	Classification or ID	Level	Nature of consent	Classification or ID	Level
Domain	Computer Support	2-7	Standard	29782	2
Domain	Generic Computing	2-7	Standard	29798	3
			Standard	29784	2
Standard	2780	1	Standard	29782, 29784	2
Standard	2781	2	Standard	29772, 29783	2
Standard	2783	2	Standard	29782, 29784	2
Standard	2784	2	Standard	29770	2
Standard	2785	3	Standard	29786	3
Standard	2786	2	Standard	29777	2
Standard	2787	3	Standard	29787	3
Standard	2788	2	Standard	29774	2
Standard	2789	3	Standard	29792	3
Standard	2790	2	Standard	29782, 29784	2
Standard	2791	2	Standard	29785	3
Standard	2795	4	Standard	29813	4
Standard	5940	2	Standard	29771	2
Standard	5947	3	Standard	29798	3
Standard	5948	4	Standard	29806	4
Standard	5952	4	Standard	29811	4
Standard	5953	3	Standard	29790	3
Standard	6743	2	Standard	29782, 29784	2
Standard	6746	4	Standard	29811	4
Standard	6747	5	Standard	29811	4

Current consent for			Consent extended to		
Nature of consent	Classification or ID	Level	Nature of consent	Classification or ID	Level
Standard	6748	5	Standard	29815	4
Standard	6869	5	Standard	29810	4
Standard	6870	5	Standard	29810	4
Standard	6871	5	Standard	29810	4
Standard	6872	5	Standard	29810	4
Standard	6873	5	Standard	29817	5
Standard	6874	5	Standard	29817	5
Standard	18742	4	Standard	29802	4
Standard	18753	3	Standard	29782, 29784	2
Standard	18755	3	Standard	29798	3
Standard	24872	3	Standard	29785	3
Standard	25662	2	Standard	29780, 29781	2
Standard	26229	4	Standard	29812	4
Standard	26230	4	Standard	29812	4
Standard	26744	2	Standard	29771	2
Standard	26745	1	Standard	29773	2
Standard	26746	4	Standard	29812	4

Impact on Consent and Moderation Requirements (CMR)

NZQA National Qualifications Services completed the review and revision of the NQS Consent and Moderation Requirements (CMRs) in October 2015, and details are available from the [review summary](http://www.nzqa.govt.nz/nqfdocs/summaries/2015/oct15/revsumoct15-02.pdf) - <http://www.nzqa.govt.nz/nqfdocs/summaries/2015/oct15/revsumoct15-02.pdf>. As a result of the CMR review, standards from CMR 0011 are to be transferred to CMR 0113 following the review of Computing unit standards.

New Computing unit standards have been registered on CMR 0226 (*NZQA Base Scope of Assessment for Schools*) or CMR 0113 (*NZQA Business and Management, Computing, Core and Communication Skills, Economics, Science and Technology, Supported Learning*). Six reviewed current standards (6761, 6836, 6852, 7910, 18750, 26227) have been moved from CMR 0011 to CMR 0113.

Detailed list of reviewed unit standards – classification, title, level, and credits

The following summary shows the changes made to the standards as a result of the review. All changes are in **bold**.

Some standards are part of more than one replacement relationship and therefore appear in the table(s) more than once. This is indicated through the use of the *.

Key to review category	
A	Dates changed, but no other changes are made - the new version of the standard carries the same ID and a new version number
B	Changes made, but the overall outcome remains the same - the new version of the standard carries the same ID and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new ID
D	Standard will expire and not be replaced

Computing and Information Technology > Computing

ID	Domain	Title	Level	Credit	Review Category
2780*	Generic Computing	Demonstrate and apply knowledge of a personal computer system	1	3	C
2783*	Generic Computing	Demonstrate knowledge of the components of personal computer systems	2	3	C
2790*	Generic Computing	Use and maintain personal computer peripherals	2	3	C
6743	Generic Computing	Demonstrate an understanding of ergonomic principles for computer workstations	2	2	C
18753*	Computer Support	Recommend hardware for personal computer use	3	5	C
29782	Generic Computing	Demonstrate knowledge of computing hardware, software and terminology to select digital tools for specified purposes	2	5	
29784	Computer Support	Troubleshoot, fix and escalate simple or routine computing and connectivity problems	2	2	
5947	Generic Computing	Use computer technology to solve a specified problem	3	3	C
18755	Computer Support	Identify and resolve users' minor computer problems	3	5	C
29798	Computer Support	Troubleshoot, fix and escalate a range of common hardware and software problems	3	3	

Computing and Information Technology > Computing > Computer Support

ID	Title	Level	Credit	Review Category
6836	Apply the principles of resolving problems for single and multi-user computer operating systems	5	5	B
6852	Describe data communications	4	4	B

ID	Title	Level	Credit	Review Category
6869	Demonstrate an understanding of hardware components for personal computers	5	7	C
6870	Assemble, test and dispatch a single-user personal computer and its peripherals from modules	5	5	C
6871	Install and test a single-user personal computer and peripherals	5	5	C
6872	Install single-user personal computer system software and applications software	5	5	C
29810	Apply essential IT technical knowledge and concepts to provide support of a computer's hardware, software and network	4	10	
6873	Repair a personal computer to module level	5	10	C
6874	Repair personal computer peripherals to module level	5	10	C
29817	Repair a personal computer and peripherals to module level	5	10	
18750	Produce a learner focused electronic training package for organisation use	3	5	B
26227	Describe and create a local area network	5	7	B

Computing and Information Technology > Computing > Generic Computing

ID	Title	Level	Credit	Review Category
2781*	Manage and protect data in a personal computer	2	3	C
29772	Manage files and folders using digital devices	2	2	
29783	Implement basic security when using digital devices and software	2	3	
2784	Create and use a computer spreadsheet to solve a problem	2	3	C
29770	Use the main features and functions of a spreadsheet application for a purpose	2	3	
2785	Create a computer spreadsheet to provide a solution for organisation use	3	5	C
29786	Produce a spreadsheet for organisational use	3	3	
2786	Create and use a computer database to solve a problem	2	3	C
29777	Use the main features and functions of a database application to create and test a database	2	3	
2787	Create and use a computer database to provide a solution for organisation use	3	6	C
29787	Produce and use a database to provide a solution for organisational use	3	3	

ID	Title	Level	Credit	Review Category
2788	Produce desktop published documents to meet a set brief	2	5	C
29774	Use the main features and functions of a desktop publishing application to create documents	2	3	
2789	Produce desktop published documents for organisation use	3	6	C
29792	Use a desktop publishing application to produce documents	3	4	
2791	Integrate spreadsheet and database data into word processed documents to meet a set brief	2	3	C
24872	Produce documents for a workplace using a computer	3	3	C
29785	Use a word processing application to integrate images, spreadsheet and database data into documents	3	4	
2792	Produce simple desktop published documents using templates	1	2	B
2796	Demonstrate knowledge of the principles of electronic logic gates in computing	4	9	B
2797	Demonstrate knowledge of the principles of computer networks	3	4	B
5940	Produce a presentation using a desktop presentation computer application	2	3	C
26744	Produce a media application for use on a communication device to meet a set brief	2	5	C
29771	Use the main features and functions of a presentation application for a purpose	2	2	
5943	Investigate use of digital applications for leisure	1	2	B
5946	Use computer technology to create and deliver a presentation from given content	1	3	B
5948	Use computer technology to research and present a topic	4	3	C
29806	Use digital tools and critical thinking to analyse data and identify solutions to problems	4	10	
5951	Describe the concepts of information systems deployment	3	3	B
5952	Demonstrate an understanding of information systems analysis	4	3	C
6746	Describe information systems departments in business organisations	4	3	C
6747	Explain the role of information technology in business	5	4	C
29811	Describe the role of information systems and information technology in organisations	4	4	
5953	Create and monitor a project plan using a computer application	3	3	C
29790	Apply digital tools to create and monitor a project plan	3	3	

ID	Title	Level	Credit	Review Category
5954	Automate processes in a computer application using a scripting language	3	5	D
5955	Demonstrate an understanding of documentation for computer applications	3	5	B
5957	Produce schematic diagrams using a computer application	2	2	C
29778	Use the main features and functions of a schematic diagram application to create diagrams	2	2	
5968	Discuss the social implications of information technology	3	3	B
6745	Demonstrate and apply knowledge of single-user and multi-user computer operating systems	4	5	B
6748	Explain ethics and professionalism for the computer industry in New Zealand	5	7	C
29815	Describe professional and ethical principles and practices, and comply with legal and organisational IT requirements.	4	5	
6750	Demonstrate an understanding of computer software development life cycles	5	4	D
7910	Demonstrate knowledge of computer data types and data structures	5	7	B
18734	Create a web page using a template	1	2	B
18742	Produce a relational database solution for organisational use	4	8	C
29802	Produce and use a relational database to address an organisational information system need	4	6	
18743	Produce a spreadsheet from instructions using supplied data	1	2	B
18756	Use and maintain a computer database for business reporting and decision making	3	4 3	B
18758	Find information using the Internet	1	2	B
20332	Use the Internet for information retrieval in an organisation	2	3	C
25662*	Use digital communications technologies	2	3	C
29781	Use the internet and common digital devices and software to gather information and connect with other users and devices	2	7	
25655	Create a website using a dedicated web-authoring tool to meet a set brief	2	3	C
29775	Use the main features and functions of a web authoring and design tool to create a website	2	3	
25656	Create a website using a mark-up language to meet a set brief	2	3	C
29776	Use the main features of an HTML editor to create a website	2	4	

ID	Title	Level	Credit	Review Category
25657	Create a website for a stakeholder using a mark-up language	3	6	C
25658	Create a website for a stakeholder using a dedicated web-authoring tool	3	5	C
29788	Develop and evaluate an interactive website for organisational use	3	5	
25659	Create a web page using a mark-up language with a text editor	1	2	B
25660	Create a computer-controlled project	3	5	C
29779	Create and test a software-controlled device built from components	2	3	
25661	Design and assemble an interactive media product without scripting	3	3	C
29789	Use a presentation application to produce an interactive multimedia presentation	3	3	
25662*	Use digital communications technologies	2	3	C
29780	Configure and use contemporary and emerging digital devices	2	3	
29781	Use the internet and common digital devices and software to gather information and connect with other users and devices	2	7	
25782	Investigate the use of Information and Communications Technologies in an organisation	3	6	B
26226	Demonstrate knowledge of computer database management systems	4	3	B
26228	Evaluate and recommend with justification the suitability of computer applications against user requirements	4	4	B
26229	Create an interactive website for a stakeholder using client-side scripting	4	10	C
26230	Create an interactive website for a stakeholder using server-side scripting	4	10	C
26746	Create a media application with scripting for use on a communication device to meet organisation requirements	4	6	C
29812	Apply knowledge and concepts of web design and scripting to plan, create and test an interactive user interface	4	10	
26745	Produce still images for a range of digital media	1	3	C
29773	Produce digital images for a range of digital media	2	3	
29769	Use the main features and functions of a word processing application for a purpose	2	3	NEW
29791	Capture and prepare digital media for integration into other applications	3	2	NEW
29793	Investigate, plan, design and create digital outcome solutions to meet the requirements of a specified brief	3	5	NEW

ID	Title	Level	Credit	Review Category
29794	Implement security solutions when using digital tools	3	5	NEW
29795	Apply ethical behaviour when using digital tools	3	5	NEW
29796	Collaborate effectively with others in a digital environment	3	7	NEW
29797	Synchronise data across digital devices and multiple platforms	3	2	NEW
29799	Apply advanced word processing features and functions to produce complex documents	4	4	NEW
29800	Apply advanced spreadsheet features and functions to meet the requirements of a brief	4	4	NEW
29801	Plan, produce and deliver an interactive multimedia presentation using digital tools to meet requirements of a brief	4	3	NEW
29803	Use a desktop publishing application to produce documents integrating media for a stakeholder	4	3	NEW
29804	Develop and evaluate an interactive website for a stakeholder	4	5	NEW
29805	Design and create an integrated digital solution to meet the requirements of a specified brief	4	5	NEW
29807	Communicate professionally in a range of digital contexts, to maintain relationships and achieve objectives	4	3	NEW
29808	Use digital technologies and systems securely, legally and ethically to gather, store, access and share information	4	5	NEW
29809	Investigate current and emerging trends in the use of digital tools to support operational efficiency and effectiveness	4	5	NEW
29814	Apply and evaluate digital tools to support the development and implementation of an IT project	4	10	NEW
29816	Communicate information and maintain relationships in an IT context	4	5	NEW

Computing and Information Technology > Computing > Software Development - Programming

ID	Title	Level	Credit	Review Category
2795	Create and operate a computer program to provide a solution for an organisation	4	15	C
29813	Apply essential knowledge and concepts of software development to create a program	4	10	
6761	Demonstrate an understanding of the principles of computer programming	5	7	B

ID	Title	Level	Credit	Review Category
18739	Create and use simple command sequences in a computer language	1	2	B
18740	Create a simple computer program to meet a set brief	2	3	B
18741	Create a computer program to provide a solution	3	6	B