

FIELD COMPUTING AND INFORMATION TECHNOLOGY**Review of *Computing* unit standards**

Subfield	Domain	Id
Computing	Generic Computing	2780, 2781, 2783-2792, 2797, 2798, 5938-5942, 5946, 5947, 5949-5951, 5953, 5954, 5956-5958, 5962, 5963, 5965-5969, 6743, 15167-15169, 18734-18737, 18743, 18745, 18758, 20332
	Software Development – Programming	18739-18741
	Software Development – System Assurance and Documentation	5955

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

Date new versions published

May 2009

Planned review date

December 2013

Summary of review and consultation process

This report concerns the review of Levels 1-3 Computing unit standards. A further report will be published concerning Levels 4 and 5 unit standards, and for unit standard 5943 as it is still under review.

This review was undertaken as part of the normal maintenance cycle for the Computing unit standards and qualifications.

From July through September 2007, National Qualifications Services undertook a scoping exercise for the Computing unit standards that compiled known issues, feedback from stakeholders, usage figures, and sector views.

During December 2007, an expert panel comprising members from Universities, Institutes of Technology and Polytechnics, Private Training Establishments, Secondary Schools, the Post Primary Teachers Association, the National Advisory Committee on Computing Qualifications (NACCQ), and National Moderators met to review these unit standards.

Minutes of this meeting, including draft changes to the unit standards, were then distributed to a wider consultation group including teachers and tutors for comment. Industry Training Organisations with qualifications materially affected by changes to the unit standards were consulted. Feedback received was considered and incorporated into the draft unit standards.

Main changes resulting from the review

- The titles of unit standards 2784, 2786-2788, 2791, 2792, 5946, 5951, 5953, 5954, 5957, 18740, 18743, 18758, and 20332 were amended to better reflect the outcome for the standard.
- The level for unit standards 2780, 2783, 5940, 5946, and 20332 was decreased to better reflect the outcomes against the framework level descriptors.
- The credit value for unit standard 2780 was decreased to better reflect the average time required to achieve this unit standard given changes in computing technology.
- The credit value for unit standards 2787-2789 and 5954 was increased to better reflect the average time taken to achieve the outcomes for these unit standards following content changes.
- New unit standard 25660 replaced unit standard 5967.
- New unit standard 25661 replaced unit standard 5963.
- New unit standard 25662 replaced unit standard 5941.
- New unit standards 25655 and 25656 replaced unit standard 18735.
- New unit standards 25657 and 25658 replaced unit standard 18737.
- New unit standard 25659 replaced unit standard 15167.
- New unit standard 25782 replaced unit standards 5950 and 5969.
- Unit standard 5938 was designated expiring and its content included in unit standards 2780 and 2781.
- Unit standard 5939 was designated expiring as its content can be assessed using unit standards 2788 or 2789.
- Unit standards 2798, 5942, 5949, 5956, 5958, 5962, 5965, 5966, 18745, and 18746 were designated expiring and will not be replaced.
- Special notes were amended to clarify definitions, describe conditions and, where required, update legislation.
- Elements and performance criteria were amended to better reflect the outcomes and to set quality indicators for the unit standards.
- Unit standard 5955 was reclassified from domain Software Development – System Assurance and Documentation to domain Generic Computing.

Unit standards categorised as category C or D expire at the end of December 2012.

Impact on existing provider accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification or Id	Level	Nature of accreditation	Id	Level
Domain	Software Development – System Assurance and Documentation	3	Standard	5955	3
Standard	5941	2	Standard	25662	2
	5969	3	Standard	25782	3
	15167	2	Standard	25659	1
	18737	3	Standard	25657, 25658	3

Impact on Accreditation and Moderation Action Plan (AMAP)

None.

Impact on existing qualifications

This table has been included as appendix 1.

Review Categories and changes to classification, title, level, and credits

All changes are in **bold**.

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

Subfield Computing
Domain Generic Computing

Id	Title	Level	Credit	Review Category
2780	Demonstrate and apply knowledge of a personal computer system	2 1	9 3	B
2781	Manage and protect data in a personal computer system	2	3	B
2783	Demonstrate knowledge of the components of personal computer systems	3 2	3	B
2784	Create and use a simple computer spreadsheet to solve a problem Create and use a computer spreadsheet to solve a problem	2	3	B
2785	Create a computer spreadsheet to provide a solution for organisation use	3	5	B
2786	Create and use a simple computer flatfile database to solve a problem Create and use a computer database to solve a problem	2	3	B
2787	Produce a computer flatfile database to provide solutions for organisation use Create and use a computer database to provide a solution for organisation use	3	5 6	B
2788	Produce a simple desktop published document to meet a set brief Produce desktop published documents to meet a set brief	2	3 5	B
2789	Produce desktop published documents for organisation use	3	5 6	B
2790	Use and maintain personal computer peripherals	2	3	B

Id	Title	Level	Credit	Review Category
2791	Integrate spreadsheet and database data into a word processed document to solve a problem Integrate spreadsheet and database data into a word processed document to meet a set brief	2	3	B
2792	Produce computer graphic documents using templates Produce simple desktop published documents using templates	1	2	B
2797	Demonstrate knowledge of the principles of computer networks	3	4	B
2798	Demonstrate knowledge of the application and impact of computer technology in an organisation	2	2	D
5938	Access computer resources via a local area network (LAN)	2	2	D
5939	Produce computer graphics using base functions	2	3	D
5940	Produce a presentation using a desktop presentation computer application	3 2	3	B
5941 25662	Exchange messages using electronic mail Use digital communications technologies	2 2	2 3	C
5942	Exchange information with an online computer service	2	3	D
5946	Use computer technology to present a topic Use computer technology to create and deliver a presentation from given content	2 1	3	B
5947	Use computer technology to solve a specified problem	3	3	B
5949	Describe the management and use of computers in an organisation	2	2	D
5950	Investigate the use of computer technology in an organisation	3	6	C
5969	Investigate the use of telecommunications in an organisation	3	6	C
25782	Investigate the use of Information and Communications Technology in an organisation	3	6	
5951	Describe the concepts of computer systems development Describe the concepts of information systems deployment	3	3	B
5953	Demonstrate an understanding of project management using a computer application Create and monitor a project plan using a computer application	3	3	B
5954	Automate processes in a computer application using a macro facility Automate processes in a computer application using a scripting language	3	2 5	B
5956	Create images using a computer	3	3	D

Id	Title	Level	Credit	Review Category
5957	Produce simple schematic diagrams using a computer application Produce schematic diagrams using a computer application	2	2	B
5958	Produce a simple design illustration using a computer application	2	3	D
5962	Digitise text	2	2	D
5963 25661	Design and assemble a multimedia computer application without scripting Design and assemble an interactive media product without scripting	3 3	3 3	C
5965	Work cooperatively using workgroup computer software	3	3	D
5966	Describe the computer control of mechanical systems	2	3	D
5967 25660	Create a computer controlled robot using a kit set Create a computer-controlled project	3 3	5 5	C
5968	Discuss the social implications of information technology	3	3	B
6743	Demonstrate an understanding of ergonomic principles for computer workstations	2	2	B
15167 25659	Create individual web pages as a basis of a website Create a web page using a mark-up language with a text editor	2 1	2 2	C
15168	Enhance pages on a website	2	4	D
15169	Develop and publish an operational website	2	3	D
18734	Create a web page using a template	1	2	B
18735 25655 25656	Create a simple website to meet the specifications of a given brief Create a website using a dedicated web-authoring tool to meet a set brief Create a website using a mark-up language to meet a set brief	2 2 2	3 3 3	C
18736	Create a simple website using a text editor to meet the specifications of a given brief	2	4	D
18737 25657 25658	Create a website for organisation use Create a website for a stakeholder using a mark-up language Create a website for a stakeholder using a dedicated web-authoring tool	3 3 3	5 6 5	C
18743	Produce a spreadsheet from instructions Produce a spreadsheet from instructions using supplied data	1	2	B
18745	Demonstrate knowledge of ethical issues for computer users in New Zealand	3	3	D
18746	Demonstrate knowledge of contemporary information technologies	3	3	D

Id	Title	Level	Credit	Review Category
18758	Demonstrate navigation skills using a browser Find information using the Internet	1	2	B
20332	Apply Internet knowledge and skills in an organisational context Use the Internet for information retrieval in an organisation	3 2	3	B

Domain Software Development – Programming

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 the specifications of a given brief 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

Domain Software Development – System Assurance and Documentation
Generic Computing

Id	Title	Level	Credit	Review Category
5955	Demonstrate an understanding of documentation for computer applications	3	5	B

Appendix 1

Impact on existing qualifications

Qualifications that contain the reviewed standards or classifications are tabled below.

Affected	The qualification lists a reviewed classification (domain or subfield) in an elective set The qualification lists a standard that has changes to level or credits The qualification lists a C or D category standard
Not materially affected	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following NZQA National Qualifications Services qualifications are affected by the outcome of this review and will be revised or reviewed in 2009.

Qualification title	Standard in the qualification
National Certificate in Computing(Level 2) [Ref: 0010]	2780
National Certificate in Computing(Level 3) [Ref: 0011]	2780
National Diploma in Teaching (Early Childhood Education, Pasifika) (Level 7) [Ref: 0983]	2780
National Certificate in Marketing [Ref: 0345]	2787, 2789, 5940, 5956
National Diploma in Marketing with strands in General Marketing, Direct Marketing, International Marketing, Marketing Research, Sales Organisation and Management, Advertising, and Public Relations [Ref: 0424]	2787, 2789, 5940, 5956,

The following qualifications are also affected by the outcome of this review. The standard setting bodies (SSBs) have been advised that they require revision. The items that generated the affected status are shown in **bold**.

Qualification title	Standard in the qualification	SSB Name
National Certificate in Footwear (Level 3) with strands in Clicking, Closing, Bottom Stock, and Making and Lasting [Ref: 0225]	2780, 2783	Apparel and Textile Industry Training Organisation
National Certificate in Textile Dyeing and Finishing (Dyeing Technology) (Level 4) with strands in Shade Assessment and Measurement, and Chemical Preparation [Ref: 0181]	2780	
National Certificate in Textiles Manufacture (Technology) (Level 4) [Ref: 0638]	2783	
National Certificate in Wool Scouring (Early Stage Wool Processing) (Level 4) [Ref: 0639]		
National Certificate in Marine Sales and Services (Marine Retailing) (Level 2) [Ref: 0548]	2780	Boating Industry Training Organisation
National Certificate in Diversional Therapy (Level 4) [Ref: 0727]	2780	Community Support Services Industry Training Organisation Limited (Career Force)
National Certificate in Fixed Fire Protection Systems (Level 5) [Ref: 0865]	5953, 5957, 5966	Competenz
National Diploma in Fire Detection and Alarm Systems (Level 5) [Ref: 0866]		
National Diploma in Fire Protection Systems Technology (Certification of Fire Safety Systems) (Level 5) [Ref: 0867]	2780, 5953, 5957, 5966	
National Certificate in Architectural Aluminium Joinery (Assembly and Glazing) (Level 3) with an optional strand in Cutting and Machining [Ref: 0766]	2780	
National Certificate in Locksmithing [Ref: 0452]		
National Certificate in Fire Detection and Alarm Systems (Testing) (Level 3) [Ref: 0862]		
National Certificate in Fire Protection Systems Technology (Inspection and Testing) (Level 4) [Ref: 0864]		
National Certificate in Hand Operated Fire Fighting Equipment (Level 3) [Ref: 0568]		

Qualification title	Standard in the qualification	SSB Name
National Certificate in Lifts and Escalators (Level 4) with strands in Installation, and Servicing [Ref: 0662]		
National Certificate in Manufacturing (Metal and Related Products) (Level 2) [Ref: 1386]		
National Certificate in Food and Related Products Processing (Level 3) [Ref: 0343]	2798, 5941	
National Certificate in Telecommunications (Management and Operations) (Level 4) with strands in Computer, Electronics, Mechanical, and Radio [Ref: 0102]	2780, 2789	ElectroTechnology Industry Training Organisation
National Certificate in Telecommunications (Sales and Service) (Level 3) with strands in Sales, and Support [Ref: 0104]		
National Certificate in Telecommunications (Planning and Design) (Level 4) with strands in Computer, Electronics, Mechanical, and Radio [Ref: 0107]		
National Certificate in Contact Centre Operations (Level 3) [Ref: 0643]	2780, 20332	
National Certificate in Electronic Engineering (Level 2) [Ref: 1092]	2780	
National Certificate in Electronic Engineering (Level 3) [Ref: 1093]		
National Certificate in Offender Management (Level 3) [Ref: 0678]		
National Certificate in Telecommunications (Level 3) with strands in Bearer and Switch, Building and Data Cabling, Customer Access Network, Customer Premises Equipment, Information and Communications Technology, Radio, and Rigging [Ref: 0767]		
National Certificate in Telecommunications (Maintenance and Repair) (Level 4) with strands in Computer, Electronics, Mechanical, and Radio [Ref: 0108]		

Qualification title	Standard in the qualification	SSB Name
National Certificate in Telecommunications (Manufacture and Production) (Level 3) [Ref: 0106]		
National Certificate in Financial Services (Level 4) [Ref: 1392]		
National Certificate in Furniture Making (Level 3) [Ref: 0965]	2780	Forest Industries Training and Education Council – Furniture
National Certificate in Furniture Making (Level 4) [Ref: 0091]		
National Certificate in Furniture (Retail and Wholesale) (Level 2) with an optional strand in Buying and Selling [Ref: 0437]		
National Certificate in Furniture Finishing (Level 2) [Ref: 0790]		
National Diploma in Embalming [Ref: 1329]	2780	Funeral Service Training Trust of New Zealand
National Diploma in Funeral Directing [Ref: 1330]	2780	
National Certificate in Design (Draughting) (Level 2) [Ref: 0640]	2780, 2798	Infratrain New Zealand
National Certificate in Surveying (Assistant) (Level 3) [Ref: 0432]	2780, 2784, 2788, 2791, 2798	
National Certificate in Surveying (Hydrographic Surveying) (Level 4) [Ref: 1444]	2780, 2784, 2788, 2791, 2798	
National Certificate in Engineering and Technology (for the Design and Construction Sector) (Level 4) [Ref: 0672]	2783, 2787	
National Certificate in Property Consultation and Valuation (Technician) (Level 5) [Ref: 0657]	2787, 2791	
National Diploma in Design with strands in Graphic Design, Product Design, and Spatial Design [Ref: 0567]	5940	
National Certificate in Administration of Revenue Law (Introduction) (Level 4) [Ref: 0950]	2780, 2784, 2787, 2788, 2789, 2791, 5940, 5941	Learning State
National Certificate in Public Sector Services (Client/Customer Services) (Level 3) [Ref: 0659]	2780, 2798, 5941	
National Certificate in Public Sector Services (Client/Customer Services) (Level 4) [Ref: 0660]		

Qualification title	Standard in the qualification	SSB Name
National Certificate in Public Sector Services (Prison Instruction) (Level 4) [Ref: 1095]	2780	
National Certificate in Public Sector Services [Ref: 0714]	2787, 2789, 5940, 5953, 5965	
National Certificate in Civil Defence Management [Ref: 0328]	2780	Local Government Industry Training Organisation
National Certificate in Meat Processing (Smallgoods) (Level 1) [Ref: 0955]	2780	New Zealand Industry Training Organisation
National Certificate in Meat Processing (Smallgoods) (Level 2) with strands in Raw Processing; Cooked Processing; and Slicing, Packaging and Dispatching; and with optional strands in Workplace Safety and Health; and Workplace Communications [Ref: 0956]		
National Certificate in Equine (Introductory Skills) (Level 2) [Ref: 0215]	2780	NZ Equine Industry Training Organisation
National Certificate in Equine (Level 4) with strands in Breeding, Harness Racing, Sporthorse, and Thoroughbred Racing [Ref: 0216]		
National Certificate in Equine (Racecourse Maintenance) (Level 3) [Ref: 0367]		
National Certificate in Equine (Stable Practice) (Level 3) with strands in Harness Racing, Sporthorse, Thoroughbred Racing, and Track Riding [Ref: 0654]		
National Certificate in Equine (Racecourse Management) (Level 4) [Ref: 0653]	2780, 2784	
National Certificate in Equine (Racing Stable Management) (Level 4) [Ref: 0794]	2780, 5941	
National Certificate in Gas Industry (Gas Transmission) (Level 3) [Ref: 0978]	2780	NZ Extractive Industries Training Organisation
National Certificate in Industrial Textile Fabrication (Level 3) with strands in Canvas Fabrication; Sailmaking; and Vehicle Trimming and Upholstery [Ref: 1340]	2780	NZ Motor Industry Training Organisation

Qualification title	Standard in the qualification	SSB Name
National Certificate in Motor Industry (Automotive Specialist Engineering) (Level 3) with strands in Automotive Heating, Ventilation, and Air Conditioning; Automotive Machining; Diesel Fuel Injection; and Motorsport [Ref: 1415]		
National Certificate in Motor Industry (Automotive Specialist Engineering) (Level 4) with strands in Automotive Heating, Ventilation, and Air Conditioning; Automotive Machining; Diesel Fuel Injection; and Motorsport [Ref: 1416]		
National Certificate in Sports Turf Management (Level 4) [Ref: 0203]	2780, 2784	New Zealand Sports Turf Industry Training Organisation Incorporated
National Certificate in Cablemaking (Level 3) with strands in Wiredrawing, Conductor Assembly, Extrusion, Cable Assembly, and Cable Testing [Ref: 0738]	2780	Plastics and Materials Processing Industry Training Organisation Incorporated
National Certificate in Plastics Processing Technology (Technical) (Level 3) with strands in Injection Moulding, Extrusion, Blow Moulding, Pressure Thermoforming, Vacuum Thermoforming, Blown Film Extrusion, Film Conversion, Injection Stretch Blow Moulding, and Rotational Moulding [Ref: 0395]		
National Certificate in Glass Container Manufacturing (Level 2) with strands in Batch and Furnace; Forming; Job Change; and Quality Control [Ref: 1359]	2780	
National Certificate in Plumbing, Gasfitting and Drainlaying (Introduction) (Level 2) [Ref: 1488]	5941	Plumbing, Gasfitting and Drainlaying ITO Ltd
National Certificate in Distribution (Level 3) [Ref: 0991]	5941	Retail ITO
National Certificate in Retail (Level 4) [Ref: 0995]	20332	
National Certificate in Community Recreation (Aquatics) (Level 3) [Ref: 0937]	2780	Sport, Fitness and Recreation Industry Training Organisation Limited

Qualification title	Standard in the qualification	SSB Name
National Certificate in Community Recreation (Community Art Work) (Level 4) [Ref: 0450]	2780, 2783, 2784, 2786, 2787, 2788, 2789, 2791, 2798	

The following qualifications are not materially affected by the changes. They will be updated when they are next reviewed.

Qualification title	Standard in the qualification	SSB Name
National Certificate in Manufacturing (Metal and Related Products) (Level 3) [Ref: 1387]	2784	Competenz
National Certificate in Conservation (Trainee Ranger) (Level 3) [Ref: 0642]	2784	Learning State
National Certificate in Public Sector Compliance Management (Road Transport) (Level 4) [Ref: 1170]		
National Certificate in Compliance and Regulatory Control (Rates Officer) [Ref: 1237]	2784	Local Government Industry Training Organisation
National Certificate in Gas Industry (Gas Engineering) with strands in Gas Network Operations, Gas Network Planning and Development, and Gas Utilisation [Ref: 0635]	5953	NZ Extractive Industries Training Organisation