# ICT Qualifications Mandatory Review

**Consultation Document**

**Consultation Document on the draft Qualifications for Computing and Information Technology**

*25 September – 16 October 2013*

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# 1. Introduction

The New Zealand Qualifications Authority (NZQA) is currently overseeing the *Mandatory Review of Qualifications*, a review of all level 1 to 6 qualifications on the New Zealand Qualifications Framework (NZQF). The review aims to reduce the duplication and proliferation of qualifications; to ensure the qualifications meet the overall needs of the particular sector and are useful, relevant and fit for purpose; and meet the new requirements for listing qualifications on the NZQF.

The review of *Information and Communications Technology* (ICT) and Computing, is being co-led by NZQA's National Qualifications Service (NQS) and the Institute of IT Professionals NZ (IITP).

Following consultation on the draft landscape of ICT qualifications, which closed 12 July, the Steering Group considered the feedback and provided a brief for working groups to guide the development of a slightly modified proposed suite of qualifications. Working groups were convened in late July to start the qualification development process, preparing the purpose statement and outcome statements for the proposed qualifications.

These draft qualifications are now available for consultation. The ICT qualifications review invites feedback on the proposed ICT qualifications to replace current qualifications.

**Full details of the draft qualifications are available in a companion document, *Draft ICT Qualification September 2013*. (Download at** http://www.iitp.org.nz/files/DraftQuals.pdf**)**

If endorsed by this consultation, these draft qualifications, or a revised set depending on the nature of feedback received, will be submitted to NZQA Quality Assurance for '*approval to develop a qualification*' with the intention that they will eventually replace all IT-related qualifications at this level on the NZ Qualifications Framework.

Further qualification development work will be undertaken in stage two of the review process, with a particular focus on refining the draft qualifications and including specifications and conditions relating to the qualifications and graduate profile outcomes.

Further information about the Mandatory Review of ICT Qualifications, including the working group brief, the draft needs analysis report, a list of all qualifications included in the review, membership of the Steering Group, the Review Plan, and previous consultation documents, can be found on the review webpage: http://tinyurl.com/ITQuals.

**The proposed ICT Qualifications are available at**

http://www.iitp.org.nz/files/DraftQuals.pdf**.**

**Consultation closes 5pm, Wednesday 16 October 2013**

# 2. Background and consultation feedback

The proposed Computing and IT Qualifications Landscape outlined the ICT Certificate and Diploma qualifications being developed for the New Zealand Qualifications Framework (NZQF). This consultation is now being undertaken to obtain stakeholder feedback and endorsement for the proposed draft qualifications, before they are submitted for 'approval to develop'.

Following investigations to determine needs for the sector, the Steering Group proposed a landscape of new qualifications which has been out for broad stakeholder consultation (a copy is available on the [review webpage](#) - *ICT qualifications mandatory review - Proposed ICT qualifications landscape*).  Stakeholder feedback on the draft landscape consultation generally supported the proposed landscape of ICT qualifications to be developed.  Further information on the feedback is summarised below.

## 2.1 Landscape consultation feedback July 2013

Stakeholder feedback on the landscape consultation, 21 June – 12 July 2013, generally supported the proposed landscape of ICT qualifications to be developed.

However there were a few issues raised that required further consideration.  The key issues, with Steering Group (SG) response, include:

➢ **Siloing at level  5**
Concern about over-specialising too early and a preference for a more general IT diploma at level 5.
*SG agreed to removal of strands/specialties in level 5 Diplomas.*

➢ **Too many separate qualifications at level 6**
Concern that too many specialisations were proposed at level 6, and a preference for qualifications to be developed to equip learners for more than one job role, due to the similar base knowledge and skills required.
*SG agreed to replace specialty IS qualifications with strands in level 6 IS Diplomas.*

➢ **Level 7 degree pathways**
Education pathway progression and the importance of diplomas providing pathways to degree qualifications.
*SG acknowledged this would be covered under employment pathways.*

➢ **Web qualification at level 5**
Concern that the only web development option was within the proposed two year/ 240 credit level 6 NZ Diploma in Software Development.
*SG agreed web development was appropriate to remain within the proposed 240 credit diploma, and to brief the work group on developing a web development/design qualification at level 5.*

➢ **Software development**
Extremes of views from degree minimum to a short vendor certification related option.
*SG discussed the possibility of having two one year Diploma qualifications, but determined that one year at level 5 would not be adequate to prepare a learner for a*

*career in programming related roles. The SG agreed that there was sufficient industry support for a 2 year qualification, and that this option would be developed.*

➢ **Alignment with vendor certifications**
  - Support for considering how vendor certification may align with proposed NZ qualifications. *SG agreed to mention of relevant vendor certifications where these were identified, and most likely to be clarified in phase 2 of development.*

  - Variable support for shorter NZ qualifications to enable IT professionals to up-skill and be credentialed to keep current in an industry with a fast pace of change. *SG agreed to develop a Certificate at level 6 to recognize the need for up-skilling IT practitioners.*

➢ **Flexibility**
  Seeking reassurance that there will be sufficient flexibility in qualification design to allow for a range of teaching and course delivery methods, and to consider direct entry to level 6 qualifications where suitable prior knowledge and experience is evidenced. *SG acknowledged that the direction to the working groups was to ensure that the draft qualifications were developed in a way that allowed programmes to be developed to enable delivery in a range of contexts; and that suitable prior knowledge and other entry requirements would be clarified further in stage 2.*

There were a number of other issues raised which were also considered, such as the structure of qualifications and whether the current general rules around qualifications on the NZ Qualifications Framework allowed for the level of flexibility some providers sought.

When considering the qualifications we ask that you consider whether the above issues have been adequately addressed.

# 3. Proposed Qualifications Landscape

The Review proposes a suite of 14 new ICT qualifications – six certificates and eight diplomas.

The new qualifications are designed to recognise generalist ICT skills and knowledge and also specialist areas, and be achievable in different contexts and to enable graduates to pursue the intended educational and employment outcomes.

The proposal suggests two streams – **Computing** qualifications (usage of computers and computing devices) and **Information Technology** qualifications (development towards professional IT roles), which also include a 'bridging' transition qualification to enable people to gain skills to equip them for the more technical aspects required of the IT professional suite of qualifications.

The proposed Computing (usage) qualifications include three computing Certificates:
- NZ Certificate in Computing (Fundamentals) (Level 2, 40 credits)
- NZ Certificate in Computing (Level 3, 60 credits)
- NZ Certificate in Computing (Advanced) (Level 4, 60 credits)

The proposed Information Technology (professional) qualifications include three IT certificates and eight diplomas:
- NZ Certificate in IT Essentials (Level 4, 60 credits)

- NZ Certificate in Information Technology (Level 5, 60 credits)
- NZ Diploma in Information Technology (Level 5, 120 credits)
- NZ Diploma in Information Systems (Level 5, 120 credits)
- NZ Diploma in Web Design and Development (Level 5, 120 credits)

- NZ Certificate in Information Technology (Practitioner) (Level 6, 40 credits)
- NZ Diploma in Systems and Network Administration (Level 6, 120 credits)
- NZ Diploma in Software Implementation and Support (Level 6, 120 credits)
- NZ Diploma in Database Administration (Level 6, 120 credits)
- NZ Diploma in Information Systems[1] (Level 6, 120 credits)
- NZ Diploma in Software Development (Level 6, 240 credits)

The original landscape of ICT qualifications has been adapted and the proposed version is informed by substantial stakeholder feedback. The approach is intended to meet the identified need for flexible learner pathways and responds to:

- Issues identified in the analysis of current qualifications and their use
- Needs identified in the literature search and wider needs analysis
- Needs identified from ICT industry consultations around job roles and qualification needs
- Feedback from industry, sector and working groups to proposed qualifications

Further development and consistency work will occur following the application for 'approval to develop', to refine the graduate profile outcomes, clarify conditions and other requirements applicable for each qualification, and ensure consistency across the suite of ICT qualifications.

The proposed landscape is contained on the following page.

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[1] *The L6 Diploma in Information Systems would include strands in Business Analysis, IT Project Management, User Experience, or Applied IS.*

# Proposed Computing and IT Qualifications Landscape - September 2013

| NZQF Level | IT as a Tool | | IT as a profession | | | | |
|---|---|---|---|---|---|---|---|
| 1 | General education review | 1 | | | | | |
| 2 | NZ Certificate in Computing Fundamentals (40 credits) | 2 | | | | | |
| 3 | NZ Certificate in Computing (60 credits) | 3 | | | | | |
| 4 | NZ Certificate in Computing (Advanced) (60 credits) | 4 | NZ Certificate in IT Essentials (60 credits) | | | | |
| 5 | | 5 | NZ Certificate in Information Technology (60 credits) | | | | |
| | | | NZ Diploma in Information Technology (no strands) (120 credits) | NZ Diploma in Info Systems (no strands) (120 credits) | NZ Diploma in Web Design & Development (120 credits) | NZ Diploma in Software Development (240 credits) | NZ Certificate in Information Technology (Practitioner) (40 credits) |
| 6 | | 6 | NZ Diploma in Systems and Network Administration (120 credits) | NZ Diploma in Software Implementation and support (120 credits) | NZ Diploma in Database Administration (120 credits) | NZ Diploma in Info Systems (strands in BA, ITPM, UX, Applied) (120 credits) | |
| 7 | | 7 | *NZ Cert/Dip in IT Security* | | | | *NZ Cert/Dip in Software Testing OR Software Security* |

| *Possible pathways.....* | *Bachelor Degrees (Level 7); Industry Certifications (Level 5, 6, 7)* |
|---|---|

# 4. Further considerations and stakeholder feedback

The scope of this review precludes consideration of qualifications above level 6, however the proposed qualifications indicate education pathways onto possible level 7 Certificates, such as in Software Testing, Software Security, IT Security; and also to IT degree qualifications.

The Steering Group has considered the issue of up-skilling and currency of vendor certifications within the context of the Qualifications Framework. Stakeholder feedback has supported the need to consider links with international vendor certifications, and while it is important that the qualifications framework maintains integrity as a true learning pathway in its own right, possible links are included in the education pathways where appropriate and can be further clarified in the next stage of development.

The issue of up-skilling in an industry with a fast pace of change is also reflected in the suite of qualifications, and the inclusion of the NZ Certificate in Information Technology (Practitioner) (Level 6) particularly addresses this need.

Information on possible education and employment pathways was covered in appendix B of the previous landscape consultation document. It outlined how the suggested qualifications framework might align with the main graduate roles identified for those graduating from Information Technology Certificates and Diplomas. These roles were developed following significant industry consultation.

## 4.1 Consultation seeking Stakeholder feedback

We are now seeking feedback from industry, providers and other interested parties on the proposed draft qualifications, and all feedback will contribute to the refinement of the suite of ICT qualifications proposed for further development and for submission for '*Application for approval to develop*'.

Please consider the draft qualifications, available in a companion document *Draft ICT Qualifications September 2013* and provide feedback at http://www.iitp.org.nz/quals/

Extended feedback may be sent to the review mailbox ictquals.review@nzqa.govt.nz

Capturing the intended purpose, graduate profile and pathway outcomes for each qualification, and confirming the need, is important at this first stage. Further work will be completed later focusing on the detail of each outcome and the credits associated.

The Steering Group for the ICT Qualifications Review invites feedback on the draft ICT qualifications http://www.iitp.org.nz/files/DraftQuals.pdf proposed to replace current qualifications.

Please provide your submission at http://www.iitp.org.nz/quals/

**Submissions close at 5pm on Wednesday 16 October 2013**

# 5. Consultation Questions

The purpose of this consultation is to gather information and stakeholder feedback about the draft ICT qualifications so that they can be amended to best meet industry and learner needs before moving to the next stage of the development process.

Please visit http://www.iitp.org.nz/quals/ to provide your response.

Consultation closes at 5pm on Wednesday 16 October 2013.

**General**

1.  Please provide your contact details.

    Name:         Email:                Employer:            Position:

2.  Please indicate the stakeholder group you most closely relate to:

    a) IT Industry (including IT-related roles in non-IT companies and non-technical management roles in IT companies)
    b) Polytechnic or Institute of Technology (ITP)
    c) Private Training Establishment (PTE)
    d) Wānanga
    e) A secondary school or other educational organisation
    f) Community group
    g) Student/individual
    h) Other (please specify)

The following questions are about specific qualifications, followed by your overall impressions. You may choose to provide feedback by responding to all or some of the questions.

*Unless otherwise stated,* **Certificates** *are 60 credits (6 month) qualifications and* **Diplomas** *are 120 credits (12 month) qualifications.  See appendix for NZQF Level Descriptors table.*

**Information Technology (practitioner) Qualifications**

1.  Referring to the draft qualifications document, how strongly do you agree or disagree that the following proposed qualifications adequately address the needs of the IT industry and learners?

    a. NZ Certificate in Information Technology (Level 5)

    b. NZ Diploma in Information Technology (Level 5)

    c. NZ Diploma in Information Systems (Level 5)

    d. NZ Diploma in Web Design and Development (Level 5)

    e. NZ Certificate in Information Technology (Practitioner) (Level 6; 40 credits; 4 months)

    f. NZ Diploma in Systems and Network Administration (Level 6)

    g. NZ Diploma in Software Implementation and Support (Level 6)

    h. NZ Diploma in Database Administration (Level 6)

    i. NZ Diploma in Information Systems (Level 6) with specialist strands in Business Analysis, IT Project Management, User Experience or Applied IS

    j. NZ Diploma in Software Development (Level 6; 240 credits; ~ two years)

2.  What could be done to improve any or all of the above qualifications?

3.  Please provide any further comments you have about these proposed qualifications.

**Transition (bridging) Qualification**

1. Referring to the draft qualifications document, how strongly do you agree or disagree that the following proposed qualification adequately address the needs of learners requiring a preparatory Certificate before pursuing further IT study?

    a. NZ Certificate in IT Essentials (Level 4)

2. What could be done to improve the transition certificate to better meet the needs of a range of learners?

**Computing (usage) Qualifications**

1. Referring to the draft qualifications document, how strongly do you agree or disagree that the following proposed qualifications adequately address the needs of organisations and learners, and those going on to use computers and technology at work, home and society?

    a. NZ Certificate in Computing (Fundamentals) (Level 2; 40 credits; ~ four months)

    b. NZ Certificate in Computing (Level 3)

    c. NZ Certificate in Computing (Advanced) (Level 4)

2. What could be done to improve any or all of the above qualifications?

3. How strongly do you agree or disagree that these qualifications have the right balance of technical user skills and tools primarily, as opposed to other 'soft' skills?

4. How strongly do you agree or disagree that the Level 3 NZ Certificate in Computing adequately prepares learners to proceed to either the level 4 NZ Certificate in Computing (Advanced), or to the IT career pathway and the level 4 NZ Certificate in IT Essentials?

5. How strongly do you agree or disagree that the title of these 'Computing' qualifications is appropriate?

6. Please provide any further comments you have about these proposed qualifications.

**Overall impressions**

1. How strongly do you agree or disagree that the proposed suite of ICT qualifications adequately addresses the needs of learners preparing for an IT related career or further study in Information Technology?

2. Do you support these qualifications being developed and made available in New Zealand?

3. Please provide any overall comments you have about the proposed suite of qualifications.

4. Please provide any further comments you would like to make about the IT Qualifications Review.

Thank you for taking the time to consider the draft ICT qualifications consultation documents, and provide feedback on the proposed suite of ICT qualifications to inform the review.

*Please visit http://www.iitp.org.nz/quals/ to provide your response*

# Appendix A: IT Qualifications Review Steering Group

The following make up the Steering Group for the IT Qualifications Review:

| Name and organization | Nominating Organisation |
|---|---|
| Paul Matthews, IITP (Chair) | NZ Institute of IT Professionals (IITP) |
| **Industry Nominees**<br>Gareth Cronin, Orion Health<br>Mindi Clews, Equinox Ltd<br>John Ascroft, Jade Software Corporation<br>Jacob Samuel, Concerto Networks | Software New Zealand<br>NZRise<br>CITRENZ<br>NZAPEP |
| **Tertiary Provider Nominees**<br>Samuel Mann, Otago Polytechnic<br>Margie Sorensen, IT Training Institute, ITTI<br>Damian Adamski, TWOA | CITRENZ<br>NZAPEP<br>Te Wānanga o Aotearoa |
| **Other Nominees**<br>John Creighton, Burnside High School | NZACDITT (IT Teacher Nominee) |
| Rod Bentham, NZQA – NQS | NZQA National Qualifications Service |

*The following also attend Steering Group meetings in a non-voting capacity:*

| | |
|---|---|
| Ken Simpson, Unitec | Professional Advisor (by NZQA) |
| Diana Garrett, NZQA – NQS | Project Team Lead |

**You can find more info about the review at http://tinyurl.com/ITQuals**

# Appendix B: NZQF Level Descriptor Table

The table below provides a detailed description of each level in terms of learning outcomes, using common domains and dimensions of progression. Knowledge, skills and application describe what a graduate at a particular level is expected to know, do and be. The term application encompasses responsibility, behaviours, attitudes, attributes and competence.

More information at:
http://www.nzqa.govt.nz/studying-in-new-zealand/nzqf/understand-nz-quals/

| LVL | KNOWLEDGE | SKILLS | APPLICATION |
|---|---|---|---|
| 1 | Basic general and/or foundation knowledge | Apply basic solutions to simple problems<br><br>Apply basic skills required to carry out simple tasks | Highly structured contexts<br><br>Requiring some responsibility for own learning<br><br>Interacting with others |
| 2 | Basic factual and/or operational knowledge of a field of work or study | Apply known solutions to familiar problems<br><br>Apply standard processes relevant to the field of work or study | General supervision<br><br>Requiring some responsibility for own learning and performance<br><br>Collaborating with others |
| 3 | Some operational and theoretical knowledge in a field of work or study | Select and apply from a range of known solutions to familiar problems<br><br>Apply a range of standard processes relevant to the field of work or study | Limited supervision<br><br>Requiring major responsibility for own learning and performance<br><br>Adapting own behaviour when interacting with others<br><br>Contributing to group performance |
| 4 | Broad operational and theoretical knowledge in a field of work or study | Select and apply solutions to familiar and sometimes unfamiliar problems<br><br>Select and apply a range of standard and non-standard processes relevant to the field of work or study | Self-management of learning and performance under broad guidance<br><br>Some responsibility for performance of others |
| 5 | Broad operational or technical and theoretical knowledge within a specific field of work or study | Select and apply a range of solutions to familiar and sometimes unfamiliar problems<br><br>Select and apply a range of standard and non-standard processes relevant to the field of work or study | Complete self-management of learning and performance within defined contexts<br><br>Some responsibility for the management of learning and performance of others |

| LVL | KNOWLEDGE | SKILLS | APPLICATION |
|---|---|---|---|
| 6 | Specialised technical or theoretical knowledge with depth in a field of work or study | Analyse and generate solutions to familiar and unfamiliar problems<br><br>Select and apply a range of standard and non-standard processes relevant to the field of work or study | Complete self-management of learning and performance within dynamic contexts<br><br>Responsibility for leadership within dynamic contexts |
| 7 | Specialised technical or theoretical knowledge with depth in one or more fields of work or study | Analyse, generate solutions to unfamiliar and sometimes complex problems<br><br>Select, adapt and apply a range of processes relevant to the field of work or study | Advanced generic skills and/or specialist knowledge and skills in a professional context or field of study |
| 8 | Advanced technical and/or theoretical knowledge in a discipline or practice, involving a critical understanding of the underpinning key principles | Analyse, generate solutions to complex and sometimes unpredictable problems<br><br>Evaluate and apply a range of processes relevant to the field of work or study | Developing identification with a profession and/or discipline through application of advanced generic skills and/or specialist knowledge and skills<br><br>Some responsibility for integrity of profession or discipline |
| 9 | Highly specialised knowledge, some of which is at the forefront of knowledge, and a critical awareness of issues in a field of study or practice | Develop and apply new skills and techniques to existing or emerging problems<br><br>Mastery of the field of study or practice to an advanced level | Independent application of highly specialised knowledge and skills within a discipline or professional practice<br><br>Some responsibility for leadership within the profession or discipline |
| 10 | Knowledge at the most advanced frontier of a field of study or professional practice | Critical reflection on existing knowledge or practice and the creation of new knowledge | Sustained commitment to the professional integrity and to the development of new ideas or practices at the forefront of discipline or professional practice |

| Diploma | Purpose | Outcomes |
|---|---|---|
| Level 5 | A diploma at level 5 qualifies individuals with theoretical and/or technical knowledge and skills within a specific field of work or study. | A graduate of a level 5 diploma is able to:<br>• demonstrate broad operational or technical and theoretical knowledge within a specific field of work or study<br>• select and apply a range of solutions to familiar and sometimes unfamiliar problems<br>• select and apply a range of standard and non-standard processes relevant to the field of work or study<br>• demonstrate complete self-management of learning and performance within defined contexts<br>• demonstrate some responsibility for the management of learning and performance of others |
| Level 6 | A diploma at level 6 qualifies individuals with theoretical and/or technical knowledge and skills in specialised/strategic contexts. | A graduate of a level 6 diploma programme is able to:<br>• demonstrate specialised technical or theoretical knowledge with depth in a field of work or study<br>• analyse and generate solutions to familiar and unfamiliar problems<br>• select and apply a range of standard and non-standard processes relevant to the field of work or study<br>• demonstrate complete self-management of learning and performance within dynamic contexts<br>• demonstrate responsibility for leadership within dynamic contexts. |