Achievement Standard

Subject Reference	Digital Technologies 3.44
Title	Demonstrate understanding of areas of computer science

Level   3   **Credits**   4   **Assessment**   External

Subfield   Technology

Domain   Digital Technologies

Status   Registered   **Status date**   4 December 2012

Planned review date   31 December 2016   **Date version published**   4 December 2012

This achievement standard involves demonstrating understanding of areas of computer science.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
• Demonstrate understanding of areas of computer science.	• Demonstrate in-depth understanding of areas of computer science.	• Demonstrate comprehensive understanding of areas of computer science.

Explanatory Notes

1   This achievement standard is derived from the Level 8 achievement objectives from the Technology learning area in *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007; and is related to the material in the *Teaching and Learning Guide for Technology*, Ministry of Education, 2012, at http://seniorsecondary.tki.org.nz.

Appropriate reference information is available in *Safety and Technology Education: A Guidance Manual for New Zealand Schools,* Ministry of Education, and the Health and Safety in Employment Act 1992.

Further information can be found at http://www.technology.tki.org.nz/.

2   *Demonstrate understanding of areas of computer science* involves:
   • describing key problems that are addressed in selected areas of computer science
   • describing examples of practical applications of selected areas to demonstrate the use of key algorithms and/or techniques from these areas.

Demonstrate in-depth understanding of areas of computer science involves:
- explaining how key algorithms or techniques are applied in selected areas
- explaining examples of practical applications of selected areas to demonstrate the use of key algorithms and/or techniques from these areas.

Demonstrate comprehensive understanding of areas of computer science involves:
- discussing examples of practical applications of selected areas to demonstrate the use of key algorithms and/or techniques from these areas
- evaluating the effectiveness of algorithms, techniques, or applications from selected areas.

3   *Areas of Computer Science* will be selected from:
- formal languages
- network communication protocols
- complexity and tractability
- intelligent systems
- software engineering
- graphics and visual computing.

4   Assessment Specifications for this achievement standard can be accessed through the Technology Resources page found at http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/ncea-subject-resources/.

Replacement Information
This achievement standard, AS91632, AS91634, and AS91641 replaced AS90684.

Quality Assurance

1   Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.

2   Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference   0233