Achievement Standard

Subject Reference	Digital Technologies and Hangarau Matihiko 2.9				
Title	Demonstrate understanding of a computer science concept				
Level	2	**Credits**	3	**Assessment**	External
Subfield	Technology				
Domain	Digital Technologies				
Status	Registered	**Status date**	29 November 2018		
Planned review date	31 December 2020	**Date version published**	29 November 2018		

This achievement standard involves demonstrating understanding of a computer science concept.

Achievement Criteria

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

Explanatory Notes

1 This achievement standard is derived 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 at http://seniorsecondary.tki.org.nz.

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

Appropriate reference information is available in *Safety and Technology Education: A Guidance Manual for New Zealand Schools,* Ministry of Education at http://technology.tki.org.nz/Technology-in-the-NZC/Safety-in-Technology-Education-revised-2017, and the Health and Safety at Work Act 2015.

This standard is also derived from *Te Marautanga o Aotearoa*. For details of *Te Marautanga o Aotearoa* outcomes to which this standard relates, see the Papa Whakaako for the relevant learning area.

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2 *Demonstrate understanding of a computer science concept* involves:
- identifying the computer science concept
- providing details of how the concept is used, is implemented, or occurs
- explaining how the concept has been or could be applied to address an opportunity
- explaining relevant mechanisms that shape the concept.

Demonstrate in-depth understanding of a computer science concept involves:
- explaining the impact of the concept.

Demonstrate comprehensive understanding of a computer science concept involves:
- explaining key problems or issues related to the concept.

3 Examples of *a computer science concept* include:
- computer security
- encryption
- error control
- complexity and tractability
- artificial intelligence.

4 Examples of *mechanisms* include:
- techniques
- algorithms
- principles
- protocols
- systems
- procedures
- processes.

5 Examples of *impact* include:
- ethical issues
- social impact
- sustainability
- human factors
- future proofing.

6 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/subjects/.

Replacement Information
This Achievement Standard replaced AS91371.

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.

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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

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