Achievement Standard

Subject Reference   Digital Technologies and Hangarau Matihiko 3.9

Title   Analyse an area of computer science

Level   3   **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 analysing an area of computer science.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
● Analyse an area of computer science.	● Analyse, in depth, an area of computer science.	● Critically analyse an area of computer science.

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.

2   *Analyse an area of computer science* involves giving an explanation of:
   • the key aspects of the computer science area
   • relevant algorithms or other mechanisms behind the area
   • how the area is used, is implemented, or occurs, giving examples

- key problems or issues related to the area and how these have been or may be addressed.

Analyse, in depth, an area of computer science involves:
- providing a detailed explanation of how the technical capabilities and limitations of the area relate to humans, giving examples
- comparing and contrasting different perspectives on the area.

Critically analyse an area of computer science involves drawing insightful conclusions about the computer science area.

3   Computer science areas will be selected from:
- complexity and tractability
- computer vision
- big data
- computer graphics
- formal languages
- network communication protocols.

4   Examples of *insightful conclusions* include:
- innovative and imaginative connections
- exploration of less obvious implications
- making justified predictions
- suggesting improvements
- making justified generalisations that could be applied beyond the area itself
- use of higher level thinking skills such as synthesis.

5   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 AS91636.

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