

## Achievement Standard

|                            |   |                               |                 |
|----------------------------|---|-------------------------------|-----------------|
| <b>Subject Reference</b>   | Generic Technology 1.3  |                               |                 |
| <b>Title</b>               | Use design ideas to produce a conceptual design for an outcome to address a brief |                               |                 |
| <b>Level</b>               | 1   | <b>Credits</b>                | 6               |
|                            |   | <b>Assessment</b>             | Internal        |
| <b>Subfield</b>            | Technology  |                               |                 |
| <b>Domain</b>              | Generic Technology  |                               |                 |
| <b>Status</b>              | Registered  | <b>Status date</b>            | 20 January 2011 |
| <b>Planned review date</b> | 31 December 2014  | <b>Date version published</b> | 20 January 2011 |

This achievement standard involves generating and testing design ideas to produce a conceptual design for an outcome to address a brief.

### Achievement Criteria

| Achievement  | Achievement with Merit  | Achievement with Excellence  |
|--|---|--|
| <ul style="list-style-type: none"> <li>Use design ideas to produce a conceptual design for an outcome to address a brief.</li> </ul> | <ul style="list-style-type: none"> <li>Use informed design ideas to produce a conceptual design for an outcome to address a brief.</li> </ul> | <ul style="list-style-type: none"> <li>Use refined design ideas to produce a conceptual design for an outcome to address a brief.</li> </ul> |

### Explanatory Notes

- This achievement standard is derived from Level 6 of the Technology learning area (Technological Practice strand) 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, 2010 at <http://seniorsecondary.tki.org.nz>.

Appropriate reference information is available in *Safety and Technology Education: A Guidance Manual for New Zealand Schools*, Learning Media, Ministry of Education, 1998; and The Health and Safety in Employment Act 1992, and in the *Technology Curriculum Support*, October 2010 that can be found at <http://www.techlink.org.nz/curriculum-support/pdfs/technology-curriculum-support-Oct-10.pdf>.

Further information about outcome development and evaluation can be found at <http://www.techlink.org.nz/curriculum-support/papers/practice/outcome-dev/index.htm> and <http://www.techlink.org.nz/curriculum-support/indicators/index.htm>.

2 *Use design ideas to produce a conceptual design for an outcome to address a brief involves:*

- generating design ideas
- testing design ideas through functional modelling
- using stakeholder feedback to inform decision making
- using findings from functional modelling to select design ideas
- producing a conceptual design for an outcome
- determining the outcome's potential fitness for purpose.

*Use informed design ideas to produce a conceptual design for an outcome to address a brief involves:*

- creating design ideas informed by research and analysis of existing outcomes
- evaluating findings from functional modelling and stakeholder feedback to justify the selected design ideas.

*Use refined design ideas to produce a conceptual design for an outcome to address a brief involves:*

- testing, refining and evaluating design ideas through functional modelling and ongoing research
- justifying the potential fitness for purpose of the outcome.

3 The brief may be provided by the teacher or developed by the student. If the student develops the brief then the teacher must ensure that it provides sufficient guidance to enable a conceptual design to be produced. The brief used for this standard must allow for a range of outcomes and include the purpose and probable attributes of the outcome.

4 A *conceptual design* clearly communicates a proposed technological outcome that has the potential to address the brief. It is a detailed description of how the outcome would look and function. Conceptual designs can be presented using a variety of techniques which may include but are not limited to – freehand sketches; diagrams; technical drawings; scale models; computer simulations; written descriptions; details of materials, components and/or assembly instructions.

5 Potential fitness for purpose refers to the likelihood of the outcome to address the brief.

6 Functional modelling is used to explore and evaluate developing design ideas. It is undertaken to gather evidence on all aspects of the outcome including its likely technical feasibility and social acceptability.

7 Conditions of Assessment related to this achievement standard can be found at <http://www.tki.org.nz/e/community/ncea/conditions-assessment.php>.

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### Replacement Information

This achievement standard replaced unit standard 7485, unit standard 7487, and unit standard 13400.

**Quality Assurance**

- 1 Providers and Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against achievement standards.
- 2 Accredited providers and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Accreditation and Moderation Action Plan (AMAP) reference

0233