

## Assessment Schedule – 2023

### Technology: Demonstrate understanding of operational parameters in complex and highly complex technological systems (91614)

#### Assessment Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<p>Demonstrating understanding of operational parameters in complex and highly complex technological systems involves:</p> <ul style="list-style-type: none"> <li>explaining the concepts involved in establishing operational parameters and the implications of these for the design and development of a complex technological system</li> <li>explaining the operational parameters of a complex technological system and how they enable the system's operation and maintenance in situ</li> <li>describing a highly complex technological system and explaining the factors that influenced the establishment of its operational parameters.</li> </ul>	<p>Demonstrating in-depth understanding of operational parameters in complex and highly complex technological systems involves:</p> <ul style="list-style-type: none"> <li>explaining a highly complex technological system and discussing why factors influence the establishment of its operational parameters.</li> </ul>	<p>Demonstrating comprehensive understanding of operational parameters in complex and highly complex technological systems involves:</p> <ul style="list-style-type: none"> <li>discussing how operational parameters impact on the design, development and maintenance of complex and highly complex technological systems.</li> </ul>

#### Evidence

N1	N2	A3	A4	M5	M6	E7	E8
Not enough evidence to show understanding, and / or is substantially reproduced with little mediation by candidate.	Report is substantially produced by the candidate but demonstrates little understanding. One part of the required response may be completely missing, or several parts may be weak.	Describes and explains as required to show understanding. Some explanations or descriptions may be weak or partial.	Describes and explains as required to show clear understanding.	Explains as required to show in-depth understanding. Some aspects of explanation may be partial or weak.	Explains as required to clearly show in-depth understanding.	Discusses as required to demonstrate comprehensive understanding. Some aspects may be partial or weak.	Discusses as required to clearly demonstrate comprehensive understanding of complex and highly complex technological systems.

**N0** = No response; no relevant evidence.

#### Cut Scores

Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
0 – 2	3 – 4	5 – 6	7 – 8

The final grade is determined using professional judgment based on a holistic examination of the evidence provided against the criteria.

### Length and legibility

If the candidate has provided a brief report, the report should not be penalised because of length.

Candidate work in excess of 10 pages must not be marked. In the case that the candidate has used a small font, the marker should make their own judgment about where to stop marking. This judgment should be made relative to 10 pages of text in 12pt Arial font, with 2.5cm margins.

If work is illegible, it cannot be marked.

Digital submissions that cannot be read cannot be marked.

### Demonstration of understanding

The report must use information to demonstrate understanding. The marker must exercise professional judgment to decide if it does so. The following guidance is provided to assist in making this judgment.

- The report demonstrates understanding if it can be described wholly or substantially by one or more of the statements in the left-hand column.
- The report does not demonstrate understanding if it can be described wholly or substantially by one or more of the statements in the right-hand column.
- If the report is comprised of both used and reproduced information, the marker must decide if it meets the standard when the reproduced information is ignored.

Evidence of <u>use</u> of information	Evidence of <u>reproduction</u> of information
<p>The report describes and explains the candidate's use, in their practice, of information relating to the standard.</p> <p>Information from the candidate's practice, research, the practice of others, artificial intelligence, and teaching is related to the candidate's technological experiences.</p> <p>The report describes experiences that could be expected to come from a course of instruction derived from the Technology Learning Area in the <i>New Zealand Curriculum</i>.</p> <p>These could include but are not limited to:</p> <ul style="list-style-type: none"> <li>• testing and trialling within a modelling process</li> <li>• developing a conceptual statement</li> <li>• developing a conceptual design</li> <li>• development of a brief</li> <li>• material selection</li> <li>• refinement of a brief</li> <li>• development of a prototype</li> <li>• development of a one-off solution.</li> </ul> <p>Information from research, the practice of others, artificial intelligence, and teaching is reported in the candidate's own voice.</p> <p><b>Referenced</b>, complex research information unchanged by paraphrase is related to other information in a manner that unambiguously constructs meaning (very rare).</p>	<p>Information is presented in isolation from the candidate's technological experiences.</p> <p>Little or nothing is offered to suggest the information is related to a course of instruction at Level 8 of the <i>New Zealand Curriculum</i>.</p> <p>Information is not in the candidate's voice. The word choice, sentence structure, sentence length, punctuation etc. are not what a candidate could be expected to produce.</p> <p><b>Unreferenced</b>, complex, research information is presented as though it is the candidate's own work.</p>