NCEA Digital Technologies and Hangarau Matihiko Remote Learning and Assessment

NZQA has considered the impacts of the Covid-19 virus on teaching, learning and assessment programmes for NCEA Digital Technologies and Hangarau Matihiko. This document includes guidance for both internal and external Digital Technologies and Hangarau Matihiko Achievement Standards.

General Guidance

Students will need access to a computer and appropriate software. Students may need access to an Internet connection.

If students have an Internet connection, there are a number of options for collaborative working available to them. For example, they may be able to use video conferencing or the facilities of a cloud-based platform, or a learning management system.

Care must be taken when students are interacting on-line to ensure their safety.

There may be issues around access and equity for some students, which you will need to consider in your programme planning.

Supporting evidence

Evidence can be gathered in a number of ways. In many cases the evidence will be apparent in the outcome that the student has created. This may be supplemented with succinct notes, for example to provide supporting evidence of where and why choices have been made.

Short videos and screencasts can also provide suitable evidence. Again, succinct notes may provide supporting evidence of student thinking.

Students should be encouraged to keep written evidence short and to the point.

Digital Technologies and Hangarau Matihiko Matrix

KEY: A colour-coding system to categorise standards according to the advice in this document.

Green	These standards are suitable for remote teaching, learning and assessment.
Blue	Teachers can facilitate assessment against these standards by remote learning with guidance (refer to General Guidance above).
Red	These standards present significant problems for remote teaching, learning and assessment.

Domain	Level 1	Level 2	Level 3
Digital Technologies	**AS91877** 1.1 **Develop a proposal for a digital outcome** Teaching and learning towards assessment of this standard requires access to information sources for research. Feedback could be gathered by interacting with other students, using a poll, for example. 3 credits Internal	**AS91890** 2.1 **Conduct an inquiry to propose a digital technologies outcome** Teaching and learning towards assessment of this standard requires access to information sources for research. 6 credits Internal	**AS91900** 3.1 **Conduct a critical inquiry to propose a digital technologies outcome** Teaching and learning towards assessment of this standard requires access to information sources for research. For suitable topics, some data could be gathered by interacting with other students, using a poll, for example. 6 credits Internal

Domain	Level 1	Level 2	Level 3
Digital Technologies	**AS91878** **1.2** **Develop a design for a digital outcome** Teaching and learning towards assessment of this standard requires access to information sources for research. Feedback could be gathered by interacting with other students, using a poll, for example. 3 credits Internal	**AS91891** **2.2** **Apply conventions to develop a design for a digital technologies outcome** Students may be able to gain feedback on their designs using collaboration software (video or otherwise). Students could collect and annotate video evidence. 3 credits Internal	**AS91901** **3.2** **Apply user experience methodologies to develop a design for a digital technologies outcome** Students may be able to test their designs using collaboration software (video or otherwise). Students could collect and annotate video evidence. 3 credits Internal
Digital Technologies	**AS91879** **1.3** **Develop a digital outcome to manage data** Where students have access to the appropriate database software, this is suitable for remote learning and assessment. 4 credits Internal	**AS91892** **2.3** **Use advanced techniques to develop a database** Where students have access to the appropriate database software, this is suitable for remote learning and assessment. 4 credits Internal	**AS91902** **3.3** **Use complex techniques to develop a database.** Where students have access to the appropriate database software, this is suitable for remote learning and assessment. 4 credits Internal

Domain	Level 1	Level 2	Level 3
Digital Technologies	**AS91880** **1.4** **Develop a digital media outcome** Where students have access to the appropriate software, this is suitable for remote learning and assessment. 4 credits Internal	**AS91893** **2.4** **Use advanced techniques to develop a digital media outcome** Where students have access to the appropriate software, this is suitable for remote learning and assessment. 4 credits Internal	**AS91903** **3.4** **Use complex techniques to develop a digital media outcome** Where students have access to the appropriate software, this is suitable for remote learning and assessment. 4 credits Internal
Digital Technologies	**AS91881** **1.5** **Develop an electronics outcome** This standard requires students to construct a functional combination of hardware and software. It is suggested that this standard be assessed once students have safe access to suitable materials, equipment and tools. 6 credits Internal	**AS91894** **2.5** **Use advanced techniques to develop an electronics outcome** This standard requires students to develop a functional electronics outcome. It is suggested that this standard be assessed once students have safe access to suitable materials, equipment and tools. 6 credits Internal	**AS91904** **3.5** **Use complex techniques to develop an electronics outcome** This standard requires students to construct a functional electronics outcome. It is suggested that this standard be assessed once students have safe access to suitable materials, equipment and tools. 6 credits Internal

Domain	Level 1	Level 2	Level 3
Digital Technologies	**AS91882** **1.6** **Develop a computer system** This standard requires students to install and configure hardware, software and peripherals. It is suggested that this standard be assessed once students have safe access to suitable materials, equipment and tools. 4 credits Internal	**AS91895** **2.6** **Use advanced techniques to develop a network** The standard requires students to install and configure hardware (including peripherals) and software. It is suggested that this standard be assessed once students have safe access to suitable materials, equipment and tools. 4 credits Internal	**AS91905** **3.6** **Use complex techniques to develop a network** This standard requires students to construct a network physically. It is suggested that this standard be assessed once students have safe access to suitable materials, equipment and tools. 4 credits Internal
Digital Technologies	**AS91883** **1.7** **Develop a computer program** Where students have access to the appropriate software, this is suitable for remote learning and assessment. 4 credits Internal	**AS91896** **2.7** **Use advanced programming techniques to develop a computer program** Where students have access to the appropriate software, this is suitable for remote learning and assessment. 6 credits Internal	**AS91906** **3.7** **Use complex programming techniques to develop a computer program** Where students have access to the appropriate software, this is suitable for remote learning and assessment. 6 credits Internal

Domain	Level 1	Level 2	Level 3
Digital Technologies	**AS91884** **1.8** **Use basic iterative processes to develop a digital outcome** Students may be able to test their outcomes using collaboration software (video or otherwise). Students could collect and annotate video evidence. 4 credits Internal	**AS91897** **2.8** **Use advanced processes to develop a digital technologies outcome** Students may be able to test their outcomes using collaboration software (video or otherwise). Students could collect and annotate video evidence. 6 credits Internal	**AS91907** **3.8** **Use complex processes to develop a digital technologies outcome** Students may be able to test their outcomes using collaboration software (video or otherwise). Students could collect and annotate video evidence. 6 credits Internal
Digital Technologies	**AS91885** **1.9** **Demonstrate understanding of searching and sorting algorithms** Students could collect and annotate video evidence to show that they can carry out an algorithm accurately. 3 credits Internal	**AS91898** **2.9** **Demonstrate understanding of a computer science concept** Teaching and learning towards assessment of this standard is suitable remotely. The current Assessment Specifications will continue to apply. 3 credits External	**AS91908** **3.9** **Analyse an area of computer science** Teaching and learning towards assessment of this standard is suitable remotely. The current Assessment Specifications will continue to apply. 3 credits External

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Digital Technologies	**AS91886** **1.10** **Demonstrate understanding of human computer interaction** Teaching and learning towards assessment of this standard is suitable remotely. The current Assessment Specifications will continue to apply. 3 credits External	**AS91899** **2.10** **Present a summary of developing a digital outcome** Teaching and learning towards assessment of this standard is suitable remotely. The current Assessment Specifications will continue to apply. Depending on the outcome chosen (for example an electronics outcome) the candidates must have produced it within the last 12 months. Schools should encourage students to produce one where the digital component is easily recognized, and the development process can be easily discussed and summarised. 3 credits External	**AS91909** **3.10** **Present a reflective analysis of developing a digital outcome** Teaching and learning towards assessment of this standard is suitable remotely. The current Assessment Specifications will continue to apply. Depending on the outcome chosen (for example an electronics outcome) the candidates must have produced it within the last 12 months. Schools should encourage students to produce one where the digital component is easily recognized, and the development process can be reflectively analysed. 3 credits External
Digital Technologies	**AS91887** **1.11** **Demonstrate understanding of compression coding for a chosen media type** Teaching and learning towards assessment of this standard is suitable remotely. The current Assessment Specifications will continue to apply. 3 credits External		**AS91632** **3.40** **Demonstrate understanding of complex concepts of information systems in an organisation** Teaching and learning towards assessment of this standard is suitable remotely. The current Assessment Specifications will continue to apply. 4 credits External