Field   Engineering and Technology

Revision of Technology Achievement Standards

Subfield	Domain	ID
Technology	Construction and Mechanical Technologies	91057-91062, 91096, 91344-91350, 91620-91626
	Design and Visual Communication	91063-91069, 91337-91343, 91627-91631
	Digital Technologies	91070-91081, 91367-91378, 91632-91642
	Generic Technology	91047-91051, 91053-91056, 91354-91366, 91608-91619
	Processing Technologies	91082- 91084, 91351-91353, 91643, 91644

The Ministry of Education has completed the revision of the achievement standards listed above.

Date new versions published   December 2013

Planned review date   December 2016

Summary

The Technology achievement standards required updating to remove or replace broken hyperlinks, remove Explanatory Note text that related to teaching and learning, to roll over the Level 1 and 2 standards to a new review date of 2016, and to correct minor formatting and grammatical errors.

Main changes

- Broken hyperlinks have been replaced. Where hyperlinks were included in Explanatory Notes relating to teaching and learning the entire section has been removed.
- Text within Explanatory Notes relating to teaching and learning has been removed.
- Level 1 and 2 standards have been rolled over to new review date of 2016.
- The publication date of the Teaching and Learning Guide has been removed – reference is now made to the 'current' version.
- Minor editorial changes have been made.

Detailed list of achievement standards – classification, title, level, and credits
Engineering and Technology > Technology > Construction and Mechanical Technologies

ID	Title	Level	Credit
91057	Implement basic procedures using resistant materials to make a specified product	1	6
91058	Implement basic procedures using textile materials to make a specified product	1	6
91059	Demonstrate understanding of basic concepts used to make products from resistant materials	1	4
91060	Demonstrate understanding of basic concepts used to make products from textile materials	1	4

ID	Title	Level	Credit
91061	Demonstrate understanding of basic concepts related to structures	1	3
91062	Demonstrate understanding of basic concepts related to machines	1	3
91096	Make basic adaptations to a pattern to enable a design to fit a person or item	1	4
91344	Implement advanced procedures using resistant materials to make a specified product with special features	2	6
91345	Implement advanced procedures using textile materials to make a specified product with special features	2	6
91346	Demonstrate understanding of advanced concepts used to make textile products	2	4
91347	Demonstrate understanding of advanced concepts used to make products	2	4
91348	Demonstrate understanding of advanced concepts related to structural frameworks	2	3
91349	Demonstrate understanding of advanced concepts related to machines	2	3
91350	Make advanced adaptations to a pattern to change the structural and style features of a design	2	4
91620	Implement complex procedures to integrate parts using resistant materials to make a specified product	3	6
91621	Implement complex procedures using textile materials to make a specified product	3	6
91622	Implement complex procedures to make a specified product using a Computer Numerical Controlled (CNC) machine	3	4
91623	Implement complex procedures to create an applied design for a specified product	3	4
91624	Demonstrate understanding of a structural system	3	3
91625	Demonstrate understanding of a complex machine	3	3
91626	Draft a pattern to interpret a design for a garment	3	6

Engineering and Technology > Technology > Design and Visual Communication

ID	Title	Level	Credit
91063	Produce freehand sketches that communicate design ideas	1	3
91064	Produce instrumental, multi-view orthographic drawings that communicate technical features of design ideas	1	3
91065	Produce instrumental paraline drawings to communicate design ideas	1	3
91066	Use rendering techniques to communicate the form of design ideas	1	3
91067	Use the work of an influential designer to inform design ideas	1	3
91068	Undertake development of design ideas through graphics practice	1	6
91069	Promote an organised body of design work to an audience using visual communication techniques	1	4
91337	Use visual communication techniques to generate design ideas	2	3
91338	Produce working drawings to communicate technical details of a design	2	4
91339	Produce instrumental perspective projection drawings to communicate design ideas	2	3
91340	Use the characteristics of a design movement or era to inform own design ideas	2	3
91341	Develop a spatial design through graphics practice	2	6
91342	Develop a product design through graphics practice	2	6
91343	Use visual communication techniques to compose a presentation of a design	2	4
91627	Initiate design ideas through exploration	3	4
91628	Develop a visual presentation that exhibits a design outcome to an audience	3	6
91629	Resolve a spatial design through graphics practice	3	6
91630	Resolve a product design through graphics practice	3	6
91631	Produce working drawings to communicate production details for a complex design	3	6

Engineering and Technology > Technology > Digital Technologies

ID	Title	Level	Credit
91070	Demonstrate understanding of basic concepts of information management	1	3
91071	Implement basic procedures to produce a specified digital information outcome	1	4
91072	Demonstrate understanding of basic concepts of digital media	1	3
91073	Implement basic procedures to produce a specified digital media outcome	1	4
91074	Demonstrate understanding of basic concepts from computer science	1	3
91075	Construct a plan for a basic computer program for a specified task	1	3
91076	Construct a basic computer program for a specified task	1	3
91077	Demonstrate understanding of basic concepts used in the design and construction of electronic environments	1	3
91078	Implement basic interfacing procedures in a specified electronic environment	1	3
91079	Implement basic techniques in constructing a specified electronic and embedded system	1	3
91080	Demonstrate understanding of the common components of basic digital infrastructures	1	3
91081	Implement basic procedures for servicing a personal computer system	1	4
91367	Demonstrate understanding of advanced concepts relating to managing shared information within information systems	2	3
91368	Implement advanced procedures to produce a specified digital information outcome with dynamically linked data	2	6
91369	Demonstrate understanding of advanced concepts of digital media	2	4
91370	Implement advanced procedures to produce a specified digital media outcome	2	4
91371	Demonstrate understanding of advanced concepts from computer science	2	4
91372	Construct a plan for an advanced computer program for a specified task	2	3
91373	Construct an advanced computer program for a specified task	2	3
91374	Demonstrate understanding of advanced concepts used in the construction of electronic environments	2	3
91375	Implement advanced interfacing procedures in a specified electronic environment	2	3
91376	Implement advanced techniques in constructing a specified advanced electronic and embedded system	2	3
91377	Demonstrate understanding of local area network technologies	2	3
91378	Implement procedures for administering a local area network	2	4
91632	Demonstrate understanding of complex concepts of information systems in an organisation	3	4
91633	Implement complex procedures to develop a relational database embedded in a specified digital outcome	3	6
91634	Demonstrate understanding of complex concepts of digital media	3	4
91635	Implement complex procedures to produce a specified digital media outcome	3	4
91636	Demonstrate understanding of areas of computer science	3	4
91637	Develop a complex computer program for a specified task	3	6
91638	Demonstrate understanding of complex concepts used in the design and construction of electronic environments	3	4
91639	Implement complex interfacing procedures in a specified electronic environment	3	4
91640	Implement complex techniques in constructing a specified complex electronic and embedded system	3	4
91641	Demonstrate understanding of wide area network technologies	3	4
91642	Implement procedures for administering a wide area network	3	4

Engineering and Technology > Technology > Generic Technology

ID	Title	Level	Credit
91047	Undertake development to make a prototype to address a brief	1	6
91048	Demonstrate understanding of how technological modelling supports decision-making	1	4

ID	Title	Level	Credit
91049	Demonstrate understanding of how materials enable technological products to function	1	4
91050	Demonstrate understanding of the role of subsystems in technological systems	1	4
91051	Demonstrate understanding of how different disciplines influence a technological development	1	4
91053	Demonstrate understanding of design elements	1	3
91054	Demonstrate understanding of basic human factors in design	1	4
91055	Demonstrate understanding of basic concepts used in manufacturing	1	4
91056	Implement a multi-unit manufacturing process	1	4
91354	Undertake brief development to address an issue	2	4
91355	Select and use planning tools to manage the development of an outcome	2	4
91356	Develop a conceptual design for an outcome	2	6
91357	Undertake effective development to make and trial a prototype	2	6
91358	Demonstrate understanding of how technological modelling supports risk management	2	4
91359	Demonstrate understanding of the role of material evaluation in product development	2	4
91360	Demonstrate understanding of redundancy and reliability in technological systems	2	4
91361	Demonstrate understanding of sociocultural factors, and how competing priorities are managed, in technology	2	4
91362	Demonstrate understanding of the nature of technological outcomes	2	4
91363	Demonstrate understanding of sustainability in design	2	4
91364	Demonstrate understanding of advanced concepts related to human factors in design	2	4
91365	Demonstrate understanding of advanced concepts used in manufacturing	2	4
91366	Undertake development and implementation of an effective manufacturing process	2	6
91608	Undertake brief development to address an issue within a determined context	3	4
91609	Undertake project management to support technological practice	3	4
91610	Develop a conceptual design considering fitness for purpose in the broadest sense	3	6
91611	Develop a prototype considering fitness for purpose in the broadest sense	3	6
91612	Demonstrate understanding of how technological modelling supports technological development and implementation	3	4
91613	Demonstrate understanding of material development	3	4
91614	Demonstrate understanding of operational parameters in complex and highly complex technological systems	3	4
91615	Demonstrate understanding of consequences, responsibilities and challenges involved in technology	3	4
91616	Demonstrate understanding of how the fitness for purpose of technological outcomes may be broadly interpreted	3	4
91617	Undertake a critique of a technological outcome's design	3	4
91618	Undertake development and implementation of a green manufacturing process	3	6
91619	Demonstrate understanding of the application of a technical area to a specific field	3	4

Engineering and Technology > Technology > Processing Technologies

ID	Title	Level	Credit
91082	Implement basic procedures to process a specified product	1	4
91083	Demonstrate understanding of basic concepts used in processing	1	4
91084	Demonstrate understanding of basic concepts used in preservation and packaging techniques for product storage	1	4
91351	Implement advanced procedures to process a specified product	2	4
91352	Demonstrate understanding of advanced concepts used in processing	2	4

ID	Title	Level	Credit
91353	Demonstrate understanding of advanced concepts used in preservation and packaging for product storage	2	4
91643	Implement complex procedures to process a specified product	3	6
91644	Demonstrate understanding of combined preservation mechanisms used to maintain product integrity	3	4