

# Australian Curriculum: Design and Technologies — Year 10

## *TMT-Materials and technologies specialisations*

### Band Plan

CURRICULUM	YEAR 10			
	SEMESTER 1		SEMESTER 2	
	Option A	Option B	Term 3	Term 4
Unit name	Sheet Metal Carry All	Automotive- Service	Bricklaying	Timber camp stool
Unit description	<p><b>Construct a metal tool box</b> Sheet metal work is a key skill in the construction industry. The ability to read plans efficiently and manufacture items using sheet metal is a fundamental skill throughout all industry. In this unit, students will construct a sheet metal tool box using sheet metal by viewing supplied drawings; use sheet metal joining techniques, ie; Spot welding and Pop Riveting; consider factors that impact on design decisions when assembling tool box; use appropriate tools and Personal Protective Equipment (PPE) and evaluate the construction processes.</p>	<p><b>Design an auto service</b> In this unit, students design and deliver a four-part auto service to school staff in response to a design brief. They critically analyse factors, including economic, sustainability and ethical considerations, that impact on the delivery of an auto service. Students will apply design thinking as they design and produce a service that meets a community opportunity. Students will apply the processes and production skills of collecting, managing and analysing data; investigating and defining; generating and designing; producing and implementing; evaluating and collaborating and managing.</p>	<p><b>Construct a mock sample of residential wall.</b> In this unit, students demonstrate and construct a mock sample of a residential wall using bricks that meets detailed specifications. Students undertake the design process by planning out the wall and coordinating the specifications of the process with fellow teams to ensure walls are level and connect according to specifications. Students research various housing designs and explain factors that impact local construction techniques.</p>	<p><b>Produce a camp stool</b> In this unit, explain how people working in design and technologies occupations consider factors that impact on design decisions and the technologies used to produce products, services and environments. They identify the changes necessary to designed solutions to realize preferred futures they have described. When producing designed solutions for identified needs or opportunities. Students create designed solutions for one or more of the technologies contexts based on a critical evaluation of needs or opportunities. They create and connect design ideas and processes of increasing complexity and justify decisions. Students communicate and document projects, including marketing for a range of audiences.</p>
ASSESSMENT	YEAR 10			
	SEMESTER 1		SEMESTER 2	
	Term 1	Term 2	Term 3	Term 4

		Sheet metal carry all – AT1	Design an auto service-AT 2	Bricklaying-AT3	Produce a timber camp stool AT4
Range and balance of summative assessment conventions	Technique	Project	Investigation	Project/Investigation	Project
	Type of text	Portfolio/ 3D model	Portfolio /Brochure	3D model/ portfolio	3D model
	Mode	Written/Verbal Physical	Demonstration/Multimodal	Physical Presented digitally	Physical Physical
	Conditions	<ul style="list-style-type: none"> <li>Individual</li> <li>Class time/ ongoing</li> <li>Written/verbal examination</li> <li>Evaluation on construction processes</li> </ul>	<ul style="list-style-type: none"> <li>Individual</li> <li>Class time/ ongoing</li> <li>Submitted electronically</li> <li>School staff and families as clients</li> <li>Brochure and flowchart to be produced and submitted electronically</li> <li>Practical demonstrations in designated lesson times</li> </ul>	<ul style="list-style-type: none"> <li>Outdoor environment</li> <li>Project to be completed in pairs</li> <li>Response to investigation to be submitted electronically</li> </ul>	<ul style="list-style-type: none"> <li>Individual</li> <li>Class time/ ongoing</li> <li>Written/verbal</li> <li>Powerpoint</li> <li></li> </ul>

### Aspects of the achievement standard

explain how people working in design and technologies occupations consider factors that impact on design decisions and the technologies used to produce products, services and environments		✓	✓	
identify the changes necessary to designed solutions to realise preferred futures they have described			✓	
when producing designed solutions for identified needs or opportunities, students evaluate the features of technologies and their appropriateness for purpose for one or more of the technologies contexts	✓			✓
create designed solutions for one or more of the technologies contexts based on a critical evaluation of needs or opportunities				✓
establish detailed criteria for success, including sustainability considerations, and use these to evaluate their ideas and designed solutions and processes	✓			✓
create and connect design ideas and processes of increasing complexity and justify decisions			✓	
communicate and document projects, including marketing for a range of audiences		✓		
independently and collaboratively apply sequenced production and management plans when producing designed solutions, making adjustments to plans when necessary	✓			✓
select and use appropriate technologies skilfully and safely to produce high-quality designed solutions suitable for the intended purpose	✓	✓		

Term 1 Term 2 Term 3 Term 4

✓ indicates opportunities that summative assessments provide for students to demonstrate evidence against aspects of the achievement standard