

Engineering Skills 2024 v1.2

C2: Project — Sheet metal working

Sample assessment instrument

This sample has been compiled by the QCAA to assist and support teachers in planning and developing assessment instruments for individual school settings.

Schools develop internal assessments for each Applied subject, based on the learning and assessment described in the syllabus.

Student name

Student number

Teacher

Issued

Due date

Overall result

Result					Comment
A	B	C	D	E	

Conditions

Technique	Project
Unit	Unit option C: Sheet metal working
Response requirements	Sheet metal product • Product: cantilever toolbox manufactured using the skills and procedures in 5–7 production processes Manufacturing process • Multimodal: up to 5 minutes or 8 A4 pages, or equivalent digital media
Individual/group	Individual
Other	Students can develop their responses in class time and their own time. The product manufacturing can be completed individually. Students must be assessed individually. Students have access to materials, tools and equipment as required to complete the assessment. Products constructed for Assessment A1 must be separate from the product component of Assessment A2. The table of contents and reference list are not included in the page count.
Resources	Drawings and technical information to be provided by the classroom teacher

Context

In the sheet metal industry, the manufacture of sheet metal items involves the utilisation of a diverse range of materials for sheet metal purposes. Tradespeople work with a range of sheet metal tools, machinery, and equipment and they recognise that products are manufactured using drawings and technical information that detail the expected quality standards of the final product, e.g. size, type and grade of metal, tolerances, fits, finish and joints.

Task

Manufacture a sheet metal cantilever toolbox that consists of multiple interconnected components and to document the manufacturing process through a multimodal.

To complete this task you must:

- manufacture a sheet metal product by
 - demonstrating sheet metal working production skills and procedures used in 5–7 production processes
 - selecting industry practices, production skills and procedures
 - adapting skills and procedures during production to meet the requirements in the drawings and technical information
- document the manufacturing process by
 - interpreting sheet metal drawings and technical information for the manufacture of a sheet metal product
 - deciding on the industry practices, and production skills and procedures required to manufacture the product
 - determining the sequence in which the production processes will be implemented
 - annotating sketches, photographs and/or video footage to capture decision-making
 - reflecting on the quality of the completed product, industry practices, and production skills and procedures used.

Stimulus

Detailed drawings and technical information provided by your teacher, e.g.

- orthographic views of the cantilever toolbox
- isometric pictorials of the cantilever toolbox
- assembly drawings or exploded views of the cantilever toolbox
- technical information from industry-standard drawings and documents.

Checkpoints

- ☐ Term 2 Week 2: Establish production plans and the sequence of production processes.
- ☐ Term 2 Week 4: Evaluate production skills and procedures and adapt production plans.
- ☐ Term 2 Week 5: Submit cantilever toolbox and multimodal.

Authentication strategies

- Your teacher will provide class time for task completion.
- You will provide documentation of your progress at indicated checkpoints.
- You must acknowledge all sources.
- You must submit a declaration of authenticity.
- Your teacher will ensure class cross-marking occurs.

Scaffolding

Further scaffolding information will be provided by your teacher, e.g.

- materials, tools and equipment risk assessments
- Safety operating procedures (SOPs)
- Material data safety sheets (MSDSs).

Instrument-specific standards (C2): Project — Sheet metal working

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
The student response has the following characteristics:						
proficient demonstration of sheet metal working industry practices, and production skills and procedures when manufacturing a sheet metal product	insightful and justified interpretation of sheet metal working drawings and technical information when manufacturing a sheet metal product	discerning selection of sheet metal working industry practices, and production skills and procedures when manufacturing a sheet metal product	strategic sequencing of sheet metal working production processes when manufacturing a sheet metal product	insightful and justified evaluation of sheet metal working production skills, procedures and a sheet metal product	insightful and justified adaptation of sheet metal working production plans, skills and procedures when manufacturing a sheet metal product	A
efficient demonstration of sheet metal working industry practices, and production skills and procedures when manufacturing a sheet metal product	detailed and supported interpretation of sheet metal working drawings and technical information when manufacturing a sheet metal product	thorough selection of sheet metal working industry practices, and production skills and procedures when manufacturing a sheet metal product	considered sequencing of sheet metal working production processes when manufacturing a sheet metal product	detailed and supported evaluation of sheet metal working production skills, procedures and a sheet metal product	detailed and supported adaptation of sheet metal working production plans, skills and procedures when manufacturing a sheet metal product	B
demonstration of sheet metal working industry practices, and production skills and procedures when manufacturing a sheet metal product	interpretation of sheet metal working drawings and technical information when manufacturing a sheet metal product	selection of sheet metal working industry practices, and production skills and procedures when manufacturing a sheet metal product	sequencing of sheet metal working industry production processes when manufacturing a sheet metal product	evaluation of sheet metal working production skills, procedures and a sheet metal product	adaptation of sheet metal working production plans, skills and procedures when manufacturing a sheet metal product	C

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
rudimentary demonstration of production skills and procedures when manufacturing an incomplete sheet metal product with obvious inaccuracies.	narrow and unsupported reference to drawings when manufacturing an incomplete sheet metal product with obvious inaccuracies.	inconsistent selection of production skills and procedures when manufacturing an incomplete sheet metal product with obvious inaccuracies.	inconsistent sequencing of production skills or procedures when manufacturing an incomplete sheet metal product with obvious inaccuracies.	narrow and unsupported evaluation of production skills, procedures, or an incomplete sheet metal product with obvious inaccuracies.	narrow and unsupported adaptations to production skills or procedures when manufacturing an incomplete sheet metal product with obvious inaccuracies.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E



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