



Australian Government

CUAACD509 Develop and refine metalworking techniques

Release: 1

CUAACD509 Develop and refine metalworking techniques

Modification History

Release	Comments
Release 1	This version first released with CUA Creative Arts and Culture Training Package version 2.0.

Application

This unit describes the skills and knowledge required to develop and refine techniques for working with metal for a range of artistic and craft purposes. The unit focuses more on the technical rather than creative or aesthetic quality of the work, and it includes the requirement for a broad range of metalworking skills.

It applies to individuals who use metal in their design or artworks and require some technical proficiency with metalworking tools and materials. This technical proficiency is not equivalent to that of a metals tradesperson. Work must be undertaken according to safety requirements.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Visual communication – art, craft and design

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Evaluate metalworking options for work projects	1.1 Evaluate how metalwork may be used in art and design practice to achieve desired outcomes or effects 1.2 Explore the potential of different metals and the technologies and tools required for their use 1.3 Investigate specific safety requirements associated with metalwork, including appropriate licensing considerations 1.4 Make an assessment of capacity to safely use metalwork in own practice

ELEMENT	PERFORMANCE CRITERIA
2. Select and prepare metalworking materials, tools and equipment	2.1 Establish the needs and purposes of specific work projects in consultation with relevant people 2.2 Establish technical specifications and creative parameters for metalwork 2.3 Select and set up materials, tools and equipment following all safety requirements and instructions 2.4 Calculate correct quantities of materials, avoiding wastage where possible
3. Use metalworking techniques	3.1 Cut, bend and shape metal to specification using correct tools and following all required safety procedures 3.2 Apply soldering, brazing and welding techniques following all required safety procedures 3.3 Achieve different outcomes and effects through safe experimentation with various media and materials 3.4 Recognise and resolve metalwork technical and design problems 3.5 Achieve precision and accuracy in use of techniques 3.6 Apply safe strategies for the use, maintenance and storage of metalworking tools and equipment
4. Evaluate metalwork	4.1 Review metal items produced in terms of durability, quality of finish, and suitability for purpose 4.2 Assess the work in terms of its creative and aesthetic objectives 4.3 Identify and act on the potential for adjustment and refinement in future work

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.2, 1.3, 2.3	Interprets and evaluates visual and textual material to identify particular metal working techniques and processes, compliance requirements, and safety instructions and procedures

Writing	1.3, 2.1, 2.2	Uses clear and specific language and industry related terminology to accurately record workplace safety information, and project requirements and specifications
Oral Communication	2.1, 2.2	Uses active listening and questioning techniques to elicit information and confirm understanding
Numeracy	2.4	Uses simple calculations to determine quantities of materials
Navigate the world of work	1.3, 1.4, 2.3, 3.6	- Meets obligation to ensure safe practices are established and followed for metal work activities in the workplace - Follows required safety practices for use, maintenance and storage of tools and equipment
Interact with others	2.1, 2.2	Uses appropriate conventions and techniques when communicating with others to determine metal work project objectives, specifications and techniques
Get the work done	1.1, 1.2, 1.4, 2.2, 3.1-3.5, 4.1, 4.2, 4.3	- Makes own decisions about the use of metal work techniques and equipment and workplace safety needs in own practice through investigation and analysis - Confirms the technical and creative constraints for work projects and determines required resources - Uses a range of techniques and materials and undertakes experiments within safety limits, resolving problems as they are encountered - Evaluates the technical quality of metal work production and the success of aesthetic outcomes and determines how to implement improvements in future work

Range of Conditions

This section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Safety requirements associated with metalwork must relate to:	- protective clothing - use of chemicals - use of gas - use of hot materials - work space set-up.
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
CUAACD509 Develop and refine metalworking techniques	CUVACD509A Develop and refine metal-working techniques	Updated to meet Standards for Training Packages and clarify intent. Minor amendment to unit title.	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1db201d9-4006-4430-839f-382ef6b803d5>

Assessment Requirements for CUAACD509 Develop and refine metalworking techniques

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Performance Evidence

Evidence of the ability to:

- Evidence of the ability to:
- produce multiple metal items using a range of effective metalworking techniques, considering the properties and behaviour of metals being used
- follow safety instructions and requirements to set up and use metalworking equipment, tools and materials
- evaluate the success of conceptual and technical outcomes of final products.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- identify current metalworking technologies and equipment and explain their application to different purposes
- discuss the properties and applications of metalworking materials and techniques
- outline reasons for the selection of particular materials and techniques and explain how particular effects are achieved
- describe common technical problems that arise in the metalworking processes of cutting, bending, shaping, soldering, brazing and welding
- explain how wastage can be avoided when working with metal and associated materials
- discuss work health and safety requirements for maintenance, storage and use of equipment and materials used in metalworking.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in creative arts industry environments. The assessment environment must include access to:

- a work space in which items can be constructed safely
- safety information and instructions
- technical information and specifications for metalwork
- metalworking materials, tools and equipment
- relevant people.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational educational and training legislation, frameworks and/or standards.

Links

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