



**Australian Government**

# **CUAACD520 Manage kiln operations**

**Release: 1**

## CUAACD520 Manage kiln operations

### Modification History

| Release   | Comments                                                                                     |
|-----------|----------------------------------------------------------------------------------------------|
| Release 1 | This version first released with CUA Creative Arts and Culture Training Package Version 5.0. |

### Application

This unit describes the skills and knowledge required to safely manage the technical operation of a kiln in the context of independent art, craft or design practice. It involves undergoing preparation for kiln work, setting up required work spaces, operating the kiln according to requirements and finalising associated documentation.

The unit applies to those who work in ceramics, glass or sculpture production and may also be responsible for the purchase or construction of their own kilns. They must be able to safely manage the operation of a kiln as part of an independent creative practice.

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. Prepare for kiln work                         | 1.1 Assess ways in which different kilns are used for craft work to inform own approach to kiln work<br>1.2 Research historical and contemporary trends to inform own approach to kiln work<br>1.3 Source and access applicable kiln for own work<br>1.4 Compare value of own kiln purchase against the benefits of constructing own kiln<br>1.5 Investigate specific safety issues associated with kiln work and integrate procedures into own work practices |
| 2. Set up kiln work space                        | 2.1 Review requirements for kiln set-up                                                                                                                                                                                                                                                                                                                                                                                                                        |

| ELEMENT                               | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       | 2.2 Confirm or implement appropriate conditions before starting the firing process<br>2.3 Identify potential safety issues and take action to address them as required                                                                                                                                                                                                                        |
| 3. Assess firing options              | 3.1 Consider firing options for the work being made<br>3.2 Determine required energy source or fuel<br>3.3 Establish applicable firing program requirements and firing time that meets requirements<br>3.4 Determine the necessary conditions to produce required kiln atmosphere for specific process as required                                                                            |
| 4. Operate and monitor the kiln       | 4.1 Evaluate and perform specific kiln loading and unloading requirements according to safety standards<br>4.2 Set required kiln controls and light kiln as required<br>4.3 Fire kiln according to required firing schedule<br>4.4 Monitor kiln operation and firing process<br>4.5 Identify and resolve technical problems in firing process<br>4.6 Execute appropriate shut-down procedures |
| 5. Address documentation requirements | 5.1 Set up firing log that includes required information<br>5.2 Record firing details in log for all work completed<br>5.3 Review firing logs to inform future work                                                                                                                                                                                                                           |

## Foundation Skills

*This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.*

| SKILL              | DESCRIPTION                                                                                                                                                                                                                                                       |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reading            | <ul style="list-style-type: none"><li>Interprets complex theoretical and technical information from different sources and determines how content applies to individual requirements</li><li>Reviews specific information to inform future work practice</li></ul> |
| Writing            | <ul style="list-style-type: none"><li>Records facts and key information related to the creative and technical outcomes of the job</li></ul>                                                                                                                       |
| Oral Communication | <ul style="list-style-type: none"><li>Elicits information from other practitioners and confirms understanding using active listening and questioning techniques</li></ul>                                                                                         |
| Numeracy           | <ul style="list-style-type: none"><li>Performs basic calculations and determines firing times</li><li>Compares costs of kiln purchase against kiln construction</li></ul>                                                                                         |

| SKILL                     | DESCRIPTION                                                                                                                                                                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Self-management           | <ul style="list-style-type: none"><li>Considers implication of applicable regulatory and legislative requirements and takes responsibility for their incorporation into establishment and maintenance of safe work practices</li></ul>           |
| Teamwork                  | <ul style="list-style-type: none"><li>Collaborates with other professionals to gather and share technical information and diagnose problems</li></ul>                                                                                            |
| Planning and organising   | <ul style="list-style-type: none"><li>Adopts systematic approach to preparation and planning of task objectives and outcomes</li></ul>                                                                                                           |
| Initiative and enterprise | <ul style="list-style-type: none"><li>Makes different analytical decisions to safely establish and operate a kiln to requirements, and determine firing options for particular work taking into account variables that affect outcomes</li></ul> |
| Problem-solving           | <ul style="list-style-type: none"><li>Recognises and addresses unfamiliar problems and uses consultation and reflection to inform future practice</li></ul>                                                                                      |

## Unit Mapping Information

Supersedes and is equivalent to CUAACD510 Manage kiln operations.

## Links

Companion Volume Implementation Guide is found on VETNet -

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

# Assessment Requirements for CUAACD520 Manage kiln operations

## Modification History

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## Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- manage kiln operations for the production of at least three fired craft pieces.

In the course of the above, the candidate must:

- determine kiln type required for own work
- implement required safety practices for kiln loading and operation
- solve technical problems arising from the firing process
- prepare own firing schedules
- establish and maintain a firing log
- collaborate with others on technical and creative challenges associated with the firing process
- pack and fire kilns independently.

## Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- safety issues associated with kiln work that include:
  - correct lifting techniques
  - kiln emissions
  - safe use of equipment
  - correct management of specific hazards associated with:
    - extreme heat
    - fuels
  - use of personal protective equipment (PPE) to protect against dust and fibres
- historical and contemporary trends in kiln types, kiln construction and kiln operation

- properties and capabilities of the range of firing materials, tools and equipment, including pyrometric instruments
- properties and specification of different kiln types
- specific firing processes, including required firing stages, changes to materials, temperature range and timing of each stage of the process
- processes and materials required for the construction of kilns
- typical problems that occur with kilns and with the firing process, and how to avoid or resolve them in the context of relevant materials and art forms
- workplace health and safety requirements for the set-up, operation and maintenance of kilns.

## Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- sources of information for:
  - safety requirements
  - historical and contemporary kilns
  - kiln types, specifications and operation
- unfired ceramic production pieces
- a workplace or studio for the firing of craft work.

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

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