



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **CPCCCM2003B Calculate and cost construction work**

**Release: 1**

## CPCCCM2003B Calculate and cost construction work

### Modification History

Not Applicable

### Unit Descriptor

**Unit descriptor** This unit of competency specifies the outcomes required to estimate materials, labour and time requirements and establish costs for provision of services or products in basic construction work. It covers the gaining of information; the estimation of materials, labour and time; the calculation of costs; and the associated documentation.

### Application of the Unit

**Application of the unit** The unit supports tradespersons and those in independent construction job roles to undertake basic costing of a minor construction job or a discrete part of a job. Site location for this work application may be either domestic or commercial.

### Licensing/Regulatory Information

Not Applicable

### Pre-Requisites

**Prerequisite units** Nil

## Employability Skills Information

**Employability skills**      This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

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Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Gather information.	<p>1.1. Details of requirements are obtained and understood through discussion with customer or from information supplied.</p> <p>1.2. <i>Plans and specifications</i> are accessed and site is inspected to confirm full requirements.</p> <p>1.3. Details of products and services to be provided are developed and checked for availability and as fit for purpose.</p> <p>1.4. Delivery point and methods of transportation are determined where necessary.</p> <p>1.5. Details are accurately recorded and checked in accordance with workplace procedures.</p>
2. Estimate materials, labour and time.	<p>2.1. Work, including preparatory tasks, is planned and sequenced to cover all necessary activity.</p> <p>2.2. <i>Types and quantities of materials</i> required for product work are estimated based on availability, fitness for purpose and current costs.</p> <p>2.3. Labour requirements to perform work are estimated to complete the work activity.</p> <p>2.4. Time requirements to perform work are accurately estimated and checked with appropriate personnel.</p>
3. Calculate costs.	<p>3.1. Total materials, <i>labour and overhead costs</i> are calculated in accordance with workplace procedures and statutory requirements.</p> <p>3.2. Total work cost is calculated, including overheads and mark-up percentages set by appropriate personnel.</p> <p>3.3. Final cost for work is calculated and checked for accuracy.</p>
4. Document and verify details.	<p>4.1. Details of costs and charges are clearly and accurately documented in accordance with workplace procedures.</p> <p>4.2. Costs, calculations or other details are verified in accordance with workplace procedures and current costing data.</p> <p>4.3. Quotation/tender documentation is prepared and verified.</p> <p>4.4. <i>Costing documents</i> are accurately completed for future reference in accordance with workplace procedures.</p>

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

#### Required skills

Required skills for this unit are:

- accessing current costing data
- accurately calculating labour costs
- accurately calculating material quantities
- producing accurate written costing information
- reading and interpreting drawings and material specifications.

#### Required knowledge

Required knowledge for this unit is:

- application of GST
- construction terminology
- environmental and sustainability requirements
- estimating and calculating processes
- impact of time on wages and other costs
- international system of units (SI) system of measurements relevant to the construction industry
- process of estimating and costing construction work
- quality requirements of construction projects
- relevant statutory and authority requirements related to estimating and costing work
- relevant tendering and contracting documentation
- safe work method statements
- sources of information and the processes for calculating material requirements
- standards applicable to the work to be undertaken, e.g. Australian standards and the Building Code of Australia.

# Evidence Guide

## EVIDENCE GUIDE

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The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- locate, interpret and apply relevant information, standards and specifications to the estimation and costing of work
- as a minimum, estimate and cost three varied jobs, including:
  - estimate quantities of material required
  - determine the types and amount of labour required to complete the work
  - estimate time required to complete the work
  - estimate overheads associated with the job
  - a written quotation/tender for each of the work requirements.

### Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the mandatory task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying

## EVIDENCE GUIDE

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safe work practices

- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

### Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge

## EVIDENCE GUIDE

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- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

## Range Statement

### RANGE STATEMENT

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The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- Plans and specifications*** include:
- sketches or drawings
  - statements of requirements, including environmental requirements relating to the acquisition, use and disposal of materials
  - materials lists and quantity schedules
  - building codes
  - materials specifications, including specifications of material reuse and recycling.
- Types and quantities of materials*** include consumables such as:
- aluminium and steel framing and steel reinforcing
  - bricks, masonry blocks and pavers
  - cement, sand, aggregates and bonding agents
  - decorative finishing materials, such as wallpaper, laminates, gilding materials, lacquers and polishes
  - fixings, fastenings and adhesives



## RANGE STATEMENT

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***Labour and overhead costs***  
include:

- fuel and lubricants
- paint, solvents and cleaning agents
- tiles and glass
- timber, plywoods, fibreboard and composites
- wall and ceiling lining materials, plaster and platers products and external claddings.
- labour costs, such as:
  - personal protective equipment
  - site facilities
  - wages and on-costs
- overhead costs, such as:
  - administration
  - Insurance
  - local government fees and charges
  - plant and equipment hire
  - transport
  - use of communication technology
  - waste removal fees.

***Costing documents*** include:

- job sheets
- materials list and estimates
- quotations and tenders
- work schedules.

## Unit Sector(s)

**Unit sector**                      Construction

## Co-requisite units

**Co-requisite units**              Nil

## **Functional area**

**Functional area**