

# Unit of Competency CPCCJS3011 Design and set out stairs

## Application

This unit of competency specifies the skills and knowledge required to design and set-out materials for the manufacturing of stairs, meeting all relevant requirements of the National Construction Code (NCC), Australian Standards, work health and safety (WHS), and Commonwealth and state or territory legislation.

The unit includes the design and set-out of components for straight flighted stairs with cut or closed stringers.

Completion of the general construction induction training program specified by the model Code of Practice for Construction Work is required for any person who is to carry out construction work. Achievement of *CPCCWHS1001 Prepare to work safely in the construction industry* meets this requirement.

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

## Prerequisite Unit

CPCCWHS2001 Apply WHS requirements, policies and procedures in the construction industry.

## Elements and Performance Criteria

1. Plan and prepare.	1.1	Read and interpret work instructions and plan sequence of work.
	1.2	Plan all work to comply with laws and regulations, the National Construction Code (NCC), Australian Standards, work health and safety (WHS) and environmental requirements, manufacturers' specifications, workplace requirements, drawings and specifications.
	1.3	Select tools and equipment, check for serviceability and report any faults.
	1.4	Select and use personal protective equipment (PPE) for each part of the task.
2. Prepare stair design.	2.1	Determine rise and going for steps and calculate lengths of stringers in compliance with NCC requirements and total rise of the stair.
	2.2	Calculate number of treads from number of rises and other requirements.
	2.3	Take and record landing measurements and requirements.
	2.4	Determine specifications for winders and incorporate into stair design.
	2.5	Design and draw stair and stair components and check for accuracy and completeness.
3. Prepare materials for setting out.	3.1	Document material requirements for stair components and prepare detailed cutting list.
	3.2	Select, check and prepare materials for set out.
	3.3	Set out joins for laminated sections.
4. Set out stringers for a stair.	4.1	Prepare steel square or pitch board to stair pitch set-out.
	4.2	Set out stringers and mark for junctions, newel posts, treads and risers.
5. Set out newel posts.	5.1	Mark floor to landing height relationships with allowances for floor

		discrepancies on newel posts.
	5.2	Set out newel posts to show positions of stringers, treads, flooring, joists, bearers and handrails.
	5.3	Mark locations for housings on newel posts.
6. Set out component parts.	6.1	Determine lengths and bevels from stringer and newel post set-outs.
	6.2	Set out component parts to respective lengths and bevels.
7. Clean up.	7.1	Clean up, meeting all legislative and workplace requirements for safety, waste disposal, materials handling and protection of the environment.
	7.2	Check, maintain and store tools and equipment and report any faults.

## Foundation skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

## Unit Mapping Information

Supersedes and is equivalent to CPCCJS3011A Design and set out stairs.

## Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

# Assessment Requirements for CPCCJS3011

## Design and set out stairs

### Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by designing and setting out the following two types of stairs:

- one straight flight staircase, minimum one metre in height
- one staircase, minimum one metre in height incorporating a quarter space landing and three winders.

One of the staircases must use a cut stringer and one must use a closed stringer.

### Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- compliance requirements of the National Construction Code and Australian Standards relevant to designing and setting out stairs
- workplace quality policies and standards relevant to designing and setting out stairs
- safety requirements for designing and setting out stairs
- types and uses of tools and equipment required for designing and setting-out stairs
- stair components:
  - balusters
  - bullnose tread
  - handrails
  - landing and landing joists
  - newels
  - risers
  - stringers
  - treads
  - winders
  - materials for stairs, including:
    - medium density fibreboard (MDF)
    - plastics
    - plywood
    - steel
    - timber
- methods for calculating lineal measurements used in stair design
- processes for measuring and setting out stairs
- processes for sketching stair drawings and required specifications
- range, types and limitations of materials used in stair construction
- types of stair design, their component parts and methods of joining components.

### Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

This unit must be assessed in the workplace or a close simulation using realistic workplace conditions and standards, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

## Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>