

Unit of Competency CPCCOM3001 Perform construction calculations to determine carpentry material requirements

Application

This unit of competency specifies the skills and knowledge required to plan and perform calculations to determine material requirements for a construction project.

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

No prerequisite unit

Elements and Performance Criteria

1. Plan and prepare.	<p>1.1 Review drawings, specifications and workplace requirements for a construction project.</p> <p>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.</p>
2. Calculate area and volume of construction materials for the project.	<p>2.1 Review drawings and specifications to determine dimensions of each type of construction material for the project.</p> <p>2.2 Calculate the area of each type of lining material.</p> <p>2.3 Calculate the total area of the building wrap and of each type of external cladding material.</p> <p>2.4 Calculate the total area of each type of roofing material.</p> <p>2.5 Calculate the quantity of materials that are measured by volume.</p>
3. Calculate the requirements for construction for the project.	<p>3.1 Calculate the quantity of wall and roof framing materials.</p> <p>3.2 Calculate the dimensions and quantity of sheets of each type of flooring and lining material, ensuring that the most economical layout is employed.</p> <p>3.3 Calculate the length of linear flooring and lining material, ensuring that the most economical layout is employed.</p> <p>3.4 Calculate the dimensions and quantity of sheets of external cladding material, ensuring that the most economical layout is employed.</p> <p>3.5 Calculate the length of linear external cladding material, ensuring that the most economical layout is employed.</p>

	3.6	Calculate the dimensions and quantity of sheets or units of roofing material, ensuring that the most economical layout is employed and allowing for overlaps.
4. Check and record results	4.1 4.2	Record workings and review calculations for accuracy. Record results of calculations as required for costing and ordering materials.

Foundation skills

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

Unit Mapping Information

No equivalent unit.

Links

Companion Volume Implementation Guide:

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

Assessment Requirements for CPCCOM3001

Perform construction calculations to determine carpentry material requirements

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by analysing the drawings and specifications for a building with a minimum of 6 rooms, including a kitchen and bathroom and linear external lining, and preparing a detailed list of materials and calculated quantities of each material for:

- wall and roof framing
- internal lining and flooring
- external cladding and roofing.

Knowledge Evidence

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

- types of equipment required for planning and performing measurements and calculations and their characteristics, uses and limitations, including calculators
- methods of using formulas to calculate the area/volume of the following in a construction environment:
 - rectangles
 - squares
 - circles
 - triangles
 - trapeziums
 - cubes
 - cylinders
- methods of converting measurements in metres to millimetres and measurements in millimetres to metres
- methods of accurately determining dimensions of materials for construction projects by scaling requirements from drawings and specifications.

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.

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