

APPLY TECHNICAL DRAWING

UNIT CODE: CON/OS/BUT/BC/CU/02/5/A

UNIT DESCRIPTION

This unit covers the competencies required to prepare and apply technical drawing. It involves selecting, using and maintaining drawing equipment and materials. It also involves developing plane geometry drawings, solid geometry drawings, pictorial and orthographic drawings and applying computer aided designs.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA <i>(Bold and italicised terms are elaborated in the Range)</i>
1. Select, use and maintain drawing equipment and materials	1.1 <i>Drawing equipment</i> are identified and gathered according to task requirements 1.2 <i>Drawing materials</i> are identified and gathered according to task requirements 1.3 Drawing equipment are used and maintained as per manufacturer's instructions 1.4 Drawing materials are used as per workplace procedures
2. Develop plane geometry drawings	2.1 Freehand sketching of different types of geometric forms and diagrams is conducted as per 2.2 Different types of lines used in drawing and their meanings are identified according to standard 2.3 Different types of <i>geometric forms</i> are constructed according to <i>standard conventions</i> 2.4 Different types of angles are constructed, measured and bisected according to principles of trigonometry
3. Develop solid geometry drawings	3.1 Pattern drawings are interpreted according to standard conventions 3.2 solid geometry drawings are constructed according to given plane geometry
4. Develop orthographic and pictorial drawings	4.1 Symbols and abbreviations are identified and interpreted according to standard drawing conventions 4.2 First and third angle orthographic drawings are interpreted and developed in accordance with the standard conventions

ELEMENT	PERFORMANCE CRITERIA <i>(Bold and italicised terms are elaborated in the Range)</i>
	4.3 Orthographic elevations are dimensioned in accordance with standard conventions 4.4 Isometric drawings are interpreted and developed in accordance with standard conventions 4.5 Oblique drawings are interpreted and developed in accordance to standard conventions
5. Apply computer Aided design	5.1 Plane geometry drawings are developed using CAD 5.2 Geometry drawings are developed using CAD 5.3 Orthographic drawings are developed using CAD

RANGE

Variable	Range
1. Drawing equipment may include but not limited to:	<ul style="list-style-type: none"> • Drawing boards • T squares • Set squares • drawing sets
2. Drawing materials may include but not limited to:	<ul style="list-style-type: none"> • Drawing paper • Pencils • Erasers • masking tapes • paper clips
3. Geometric forms may include but not limited to:	<ul style="list-style-type: none"> • Circles • Triangles • rectangles • parallelogram • polygons • pyramids • conic sections • prisms
4. Standard conventions may include but not limited to:	<ul style="list-style-type: none"> • Anatomy of engineering drawing (title block, coordinate grid system, revision block, notes and legends) • Drawing scale (paper size and drawing symbols) • International drawing standards

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

The individual needs to demonstrate the following skills:

- Critical thinking
- Drawing
- Sketching
- Interpretation
- Communication
- Inter personal

Required knowledge

The individual needs to demonstrate knowledge of:

- Drawing equipment and materials
- Freehand sketching
- Lettering
- Geometrical constructions
- Types of drawings
- Types of lines
- Isometric drawing conventions, features, characteristics, components
- Orthographic drawing conventions, features, characteristics, components
- Sketches and drawings of simple patterns

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and understanding and range.

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Selected, used and maintained drawing equipment and materials based on task requirements. 1.2 Constructed different types of geometric forms and angles in accordance with standard conventions. 1.3 Constructed solid geometry drawings based on provided plane geometry 1.4 Used symbols and abbreviations as per standard drawing conventions. 1.5 Developed geometric, plans and orthographic drawings using CAD
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2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2.1 Access to relevant workplace where assessment can take place. 2.2 Appropriately simulated environment where assessment can take place. 2.3 Resources relevant to proposed activity or task
3. Methods of Assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Practical tests 3.2 Oral Questioning
4. Context of Assessment	<p>Competency may be assessed:</p> <ul style="list-style-type: none"> 4.1 On-the-job 4.2 In a simulated workplace setting
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

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