

TECHNICAL DRAWING

UNIT CODE: CON/CU/BUT/CU/02/5

Duration of Unit: 120 HOURS

Relationship to Occupational Standards

This unit addresses the unit of competency: Prepare and interpret technical drawings

Unit Description

This unit covers the competencies required to prepare and interpret technical drawings. It involves competencies to select, use and maintain drawing equipment and materials. It also involves producing plain geometry drawings, solid geometry drawings, pictorial and orthographic drawings of components and application of Computer Aided Design (CAD) packages.

Summary of Learning Outcomes

1. To use and maintain drawing equipment and materials
2. To produce plane geometry drawings
3. To produce solid geometry drawings
4. To produce pictorial and orthographic drawings of components
5. To apply CAD packages

Learning Outcomes, Content and Suggested Assessment Methods:

Learning Outcome	Content	Suggested Assessment Methods
1. Use and maintain drawing equipment and materials	<ul style="list-style-type: none">• Identification and care of drawing equipment• Identification and care of drawing materials• Reference to manufacturer's instructions and work place procedures on use and maintenance of drawing equipment and materials• Reference to relevant environmental legislations• Use of Personal Protective Equipment (PPEs)	<ul style="list-style-type: none">• Observation• Oral assessment• Practical• Portfolio of Evidence• Written assessment
2. Produce plane geometry	<ul style="list-style-type: none">• Types of lines in drawings• Construction of geometric forms e.g.	<ul style="list-style-type: none">• Observation• Oral assessment

drawings	<ul style="list-style-type: none"> squares, circles • Construction of different angles • Measurement of different angles • Bisection of different angles and lines • Standard drawing conventions 	<ul style="list-style-type: none"> • Practical • Project • Portfolio of Evidence • Written assessment • Observation
3. Produce solid geometry drawings	<ul style="list-style-type: none"> • Interpretation of sketches and drawings of patterns e.g. cylinders, prisms and pyramids • Sectioning of solids e.g. prisms, cones • Development and interpenetrations of solids e.g. cylinder to cylinder and cylinder to triangular, prism 	<ul style="list-style-type: none"> • Observation • Oral assessment • Practical • Project • Portfolio of Evidence • Written assessment
4. Produce orthographic drawings	<ul style="list-style-type: none"> • Meaning of pictorial and orthographic drawings • Meaning of sectioning • Meaning of symbols and abbreviations • Drawing and interpretation of orthographic elevations • Dimensioning of orthographic elevations • Sectioning of views 	<ul style="list-style-type: none"> • Observation • Oral assessment • Practical • Project • Portfolio of Evidence • Written assessment
5. Produce pictorial drawings	<ul style="list-style-type: none"> • Meaning of pictorial drawings • Drawing objects in isometric view • Drawing objects in oblique view 	<ul style="list-style-type: none"> • Observation • Oral assessment • Practical • Project • Portfolio of Evidence • Written assessment
6. Apply CAD packages	<ul style="list-style-type: none"> • Identification of CAD packages e.g. AutoCAD, circuit maker • Use of CAD packages in drawing of: <ul style="list-style-type: none"> - Plane geometry - Solid 	<ul style="list-style-type: none"> • Observation • Oral assessment • Practical • Project • Portfolio of Evidence

	<ul style="list-style-type: none">- Orthographic- Pictorial	<ul style="list-style-type: none">• Written assessment
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Suggested Methods of Instruction

- Projects
- Demonstration by trainer
- Practice by the trainee
- Discussions
- Simulation
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Recommended Resources for 25 Trainees

- 2 Drawing rooms
- 25 sets Drawing instruments e.g. T-squares, set squares, drawing sets
- 25 Drawing tables
- Assorted Pencils, papers, erasers
- Assorted Masking tapes
- 10 Computers installed with relevant CAD packages

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