

PREPARE TECHNICAL DRAWINGS II

UNIT CODE: 0732441 16A

TVET CDACC UNIT CODE: ENG/OS/MDE/CC/12/5/MA

UNIT DESCRIPTION

This unit covers the competencies required to prepare technical drawings. Its competencies include; Producing pictorial, orthographic drawings and electrical drawings.

ELEMENTS These describe the key outcomes which make up workplace function.	PERFORMANCE CRITERIA These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range.</i>
1. Produce pictorial drawings of components	2.1.Different symbols and abbreviations are identified, and their meaning interpreted as per technical drawing standards. 2.2.Pictorial sketches and <i>pictorial drawings</i> of components are interpreted and produced as per technical drawing standards. 2.3.Different types of geometric forms, tools and equipment is freehand sketched as per technical drawing standards.
2. Produce orthographic drawings of components	3.1 First angle orthographic sketches and drawings of components are interpreted and produced as per technical drawing standards. 3.2 Third angle orthographic sketches and drawings of components are interpreted and produced as per technical drawing standards. 3.3 Isometric projections and oblique projections are interpreted and produced as per technical drawing standards.

ELEMENTS	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function.	These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range.</i>
3. Produce electrical drawings	3.1. Electrical symbols and abbreviations are identified according to BS 3939 standards 3.2. Electrical schematic diagrams are drawn as per installation requirement 3.3. Electrical wiring diagrams are drawn as per installation requirement 3.4. <i>Electrical and Electronic drawings</i> are produced using appropriate CAD software as per software manual 3.5. Electrical installation components are placed on a building plan using AutoCAD as per required design 3.6. Electrical and electronic drawings are simulated as per software manual

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
1. Pictorial and orthographic drawings may include but is not limited to:	<ul style="list-style-type: none"> • Range • Elevation • Isometric • Sectioning
2. Electrical and Electronic drawings may include but is not limited to:	<ul style="list-style-type: none"> • Block • Wiring diagram • schematic • PCB

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
- Interpretation
- Drawing equipment handling
- Analysis and synthesis
- Basic computer skills
- 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	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Produced <i>Pictorial and orthographic drawings</i> using AutoCAD software as per software manual</p> <p>1.2 Drew Electrical schematic diagrams as per installation requirement</p> <p>1.3 Produced Electrical and Electronic drawings using appropriate CAD software as per software manual</p> <p>1.4 Placed Electrical installation components on a building plan using AutoCAD as per required design.</p>
2. Resource Implications	<p>Resources the same as that of workplace are advised to be applied.</p> <p>2.1 Drawing room</p> <p>2.2 Drawing equipment and materials</p> <p>2.3 Computers</p> <p>2.4 CAD packages</p> <p>2.5 Drawing software</p>
3. Methods of Assessment	<p>Competency may be assessed through:</p> <p>3.1 Practical demonstration</p> <p>3.2 Projects</p> <p>3.3 Written tests</p> <p>3.4 Oral test</p>
4. Context of Assessment	<p>Competency may be assessed in a workplace or a simulated workplace.</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>