

Domain

CARPENTRY

Title:

Demonstrate drawing techniques

Level: 1

Credits: 4

Purpose

This unit standard specifies the competencies required to demonstrate drawing techniques. It includes identifying the types of drawings used, selecting and preparing drawing instruments and materials used, producing lines, shapes and angles used in drawings, producing freehand sketches, producing isometric drawings, oblique drawings, first and third angle orthographic projections of objects.

This unit standard is intended for those who work as carpenters.

Special Notes

1. Entry information:

Prerequisite:

- 1157-*Demonstrate basic knowledge of workplace health and safety* or demonstrated equivalent knowledge and skills.
2. To demonstrate competence, at a minimum, evidence is required of producing freehand sketches, isometric drawings, oblique drawings, first and third angle orthographic drawings. Evidence is required of:
- using, maintaining and storing of drawing instruments,
 - reading and interpreting freehand sketches, isometric drawings, oblique drawings, first and third angle orthographic projections of objects,
 - converting of scales,
 - producing freehand sketches, isometric drawings, oblique drawings, first and third angle orthographic projections of objects.
3. Drawings include but are not limited to the following: sketch drawing, design drawing, working drawing, site plans, locality plans, layout drawings and component drawings.
4. Shapes may include but not limited to squares, rectangles, triangles, polygons and circles. Type of angles may include but not limited to 30⁰, 45⁰, 60⁰, 90⁰ and 120⁰
5. Drawing instruments include but are not limited to set squares, drawing board, Tee squares, pencils, compass set, circle templates, stencil set, eraser and scale ruler.
6. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers' and company guidelines, instructions, and reasonable flat rate time.
7. Regulations and legislation relevant to this unit standard include the following:
- Labour Act No 11, 2007 as amended;
 - Occupational Health and Safety Regulations No. 18, 1997

and all subsequent amendments.

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority on www.namqa.org and the Namibia Training Authority on www.nta.com.na.

Elements and Performance Criteria

Element 1: Identify the types of drawings used

Performance criteria

- 1.1 Roles of various drawings in construction are explained.
- 1.2 Application of drawing equipment required is explained.
- 1.3 Terminologies and projection methods for freehand sketches, isometric, oblique, first and third angle orthographic projections are explained.

Element 2: Select and prepare drawing instruments and materials used

Performance criteria

- 2.1 Drawing instruments are identified.
- 2.2 Functions and limitations of drawing instruments are explained.
- 2.3 Instruments and materials are selected.
- 2.4 Drawing instruments are used, maintained and stored.
- 2.5 Alignment and securing of drawing paper explained.
- 2.6 Border lines, legends and position of drawings are explained and demonstrated.

Element 3: Produce lines, shapes and angles used in drawings

Range

Lines may include but not limited to construction lines, faint lines, out lines, hatching lines and centre lines.

Performance criteria

- 3.1 Lines used in drawing are identified.

- 3.2 Lines are produced according to specifications.
- 3.3 Shapes used in drawings are identified.
- 3.4 Shapes are constructed in line with given specifications.
- 3.5 Angles are constructed in line with given specifications.

Element 4: Produce freehand sketches

Performance criteria

- 4.1 Signs, symbols, abbreviations and lines are interpreted.
- 4.2 Principles of freehand sketching are explained.
- 4.3 Dimensions are interpreted and applied.
- 4.4 Scales are converted and determined.
- 4.5 Legends are located and recognised in line with standard drawing conventions.

Element 5: Produce isometric drawings of objects

Performance criteria

- 5.1 Views of objects are produced and labelled in accordance with the conventions of isometric.
- 5.2 Lines, signs, symbols and abbreviations are used in drawings are explained.
- 5.3 Scales are interpreted, converted and applied in line with standard drawing conventions of isometric conventions.

Element 6: Produce oblique drawings of objects

Performance criteria

- 6.1 Views of objects are produced and labelled in accordance with the conventions of oblique drawings.
- 6.2 Lines, signs, symbols and abbreviations are used in drawings.
- 6.3 Line diagrams are interpreted.

Element 7: Produce first angle orthographic projection of objects

Performance criteria

- 7.1 Views of objects are produced and labelled in accordance with the conventions of first angle orthographic projection.
- 7.2 Lines, signs, symbols and abbreviations are used in drawings are explained.
- 7.3 Scales are interpreted, converted and applied in line with standard drawing conventions of first angle orthographic projection conventions.

Element 8: Produce third angle orthographic projection of objects

Performance criteria

- 8.1 Views of objects are produced and labelled in accordance with the conventions of third angle orthographic projection.
- 8.2 Lines, signs, symbols and abbreviations are used in drawings are explained.
- 8.3 Scales are interpreted, converted and applied in line with standard drawing conventions of third angle orthographic projection.

Registration Data

Subfield:	General Construction
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