

Unit 25: Graphical Detailing in Construction and the Built Environment

Unit code: A/600/0222

OCF Level: 3

Credit value: 10

Guided learning hours: 60

Unit aim

This unit gives learners the opportunity to produce 2D and 3D graphical drawings using manual drafting techniques and to produce graphical information in the form of simple specifications and schedules.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria
1 Know the main equipment, media and techniques used in the production of manual graphical information	1.1 identify the use of equipment and media used to produce manual graphical information
	1.2 describe correct drawing standards and conventions
	1.3 describe manual presentation techniques
2 Understand the use of CAD and its benefits in the production and management of graphical information	2.1 explain techniques and uses of different types of CAD information
	2.2 describe the benefits of using CAD for the production and management of graphical information
3 Be able to interpret graphical drawings, details, schedules and specifications	3.1 interpret graphical drawings, details, schedules and specifications

	3.2 describe the techniques used to construct and finish the component elements of a superstructure
4 Be able to produce graphical drawings, details, schedules and specifications using manual drafting techniques	4.1 produce 2D and 3D graphical drawings using manual drafting techniques
	4.2 produce graphical information in the form of simple specifications and schedules

DRAFT

THIS IS AN ACCREDITED SPECIFICATION AND CAN BE USED FOR TEACHING AND ASSESSMENT

Unit content

1 Know the main equipment, media and techniques used in the production of manual graphical information

Equipment: hand drafting equipment (pens, pencils, scale rules, erasers, erasing shields, adjustable set squares, compasses, templates and flexible curves, stencils, parallel motion drawing boards, drafting tape)

Media: grades of pencil (HB, H, 2H); ink (pens 0.2, 0.25, 0.4, 0.5 mm thick); paper (detail paper, cartridge paper, tracing paper, A1, A2, A3 and A4 sizes); reprographics, including photostatic methods; loading plotter rolls

Techniques: drawing lines; drawing shapes; drawing to scale; lettering and dimensioning; graphic conventions; use of standard symbols; projection techniques, standards and conventions eg British Standards, Coordinated Project Information, Uniclass system, CISfB system

2 Understand the use of CAD and its benefits in the production and management of graphical information

CAD techniques: commands (set-up, drawing, editing, zoom); layers; line weights; drawing scale; model view; paper view; plotting methods

CAD information: 2D drawings; 3D virtual models; linked scheduling; layouts; exploded diagrams; rendering; walkthroughs; photo-realisation

CAD drawing management: workflow tracking and reporting; real-time mark-up and reviews; sharing/security and back-up issues

Benefits: electronic transmission; ease of amendment; saving; automatic conversion to 3D; walkthrough

3 Be able to interpret graphical drawings, details, schedules and specifications

Graphical drawings and details: constructional and dimensional data for 2D and 3D; planning and surveying drawings; preliminary sketch drawings; design drawings, production drawings; structural and civil engineering drawings; fabrication drawings; component drawings; services drawings; layout drawings; freehand sketches

Schedules and specifications: specification information; steel fabrication design data; reinforced concrete bar bending schedules; timber cutting list

4 Be able to produce graphical drawings, details, schedules and specifications using manual drafting techniques

Graphical drawings and details: plans; elevations; sections; details; 2D and 3D projections (isometric, axonometric, orthographic, developments); sketches; perspectives; presentational charts; schematic diagrams

Schedules and specifications: specification information; steel fabrication design data; window schedules; door schedules; bending schedules; timber cutting list

DRAFT