



## National Unit Specification: general information

**UNIT** Construction Craft Drawing: An Introduction (SCQF level 5)

**CODE** F6RT 11

### SUMMARY

This Unit is suitable for candidates working towards a Modern Apprenticeship in Carpentry and Joinery and will develop the candidates craft skills in construction drawing. This Unit is designed to provide candidates with competence in the use of tools and equipment to produce working drawings used to construct items of joinery and the ability to apply these skills in the workplace. It is also designed to enable candidates to develop their knowledge and understanding of construction drawing, terminology, techniques and practices, and production of working drawings.

### OUTCOMES

- 1 Identify the symbols, abbreviations and lines used in construction drawing.
- 2 Produce annotated scale drawings of plane figures.
- 3 Produce annotated scale drawings in first angle orthographic projection, from three-dimensional shapes.
- 4 Produce annotated scale drawings of three-dimensional shapes in isometric and oblique projection.

### RECOMMENDED ENTRY

While entry is at the discretion of the centre, candidates undertaking the Professional Development Award in Carpentry and Joinery at SCQF level 6 must meet the requirements of the Modern Apprentices, which include being employed in the relevant, craft industry.

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#### Administrative Information

**Superclass:** TD

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## **National Unit Specification: general information (cont)**

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### **CREDIT VALUE**

1 credit at SCQF level 5 (6 SCQF credit points at SCQF level 5\*).

*\*SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

### **CORE SKILLS**

There is no automatic certification of Core Skills or Core Skill components in this Unit.

Opportunities for developing aspects of the following Core Skills are highlighted in Support Notes of this Unit.

- ◆ *Problem Solving* at SCQF level 4
- ◆ *Communication* at SCQF level 4
- ◆ *Information and Communication Technology* at SCQF level 3
- ◆ *Numeracy* at SCQF level 4

## **National Unit Specification: statement of standards**

### **UNIT      Construction Craft Drawing: An Introduction (SCQF level 5)**

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit Specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

#### **OUTCOME 1**

Identify the symbols, abbreviations and lines used in construction drawing.

##### **Performance Criteria**

- (a) Identify symbols used in construction drawing.
- (b) Identify abbreviations used in construction drawing.
- (c) Identify the use of lines in construction drawing.

#### **OUTCOME 2**

Produce annotated scale drawings of plane figures.

##### **Performance Criteria**

- (a) Select equipment appropriate to the task.
- (b) Lay out drawing sheet with the title panel set out to correct position and size.
- (c) Set out and bisect lines and angles in triangles accurately using compasses.
- (d) Set out and accurately draw a range of plane figures to scale.

#### **OUTCOME 3**

Produce annotated scale drawings in first angle orthographic projection, from three-dimensional shapes.

##### **Performance Criteria**

- (a) Select equipment appropriate to the task.
- (b) Lay out drawing sheet with the title panel set out to correct position and size.
- (c) Set out and accurately draw to scale in first angle orthographic projection from three-dimensional shapes.

#### **OUTCOME 4**

Produce annotated scale drawings of three-dimensional shapes in isometric and oblique projection.

##### **Performance Criteria**

- (a) Select equipment appropriate to the task.
- (b) Lay out drawing sheet with the title panel set out to correct position and size.
- (c) Set out and accurately draw to scale three dimensional shapes in isometric projection.
- (d) Set out and accurately draw to scale three dimensional shapes in oblique projection.

## **National Unit Specification: statement of standards**

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### **EVIDENCE REQUIREMENTS FOR THIS UNIT**

Evidence is required to demonstrate that the candidates have achieved this Unit to the standard specified in all the Outcomes and Performance Criteria. All working practices must be in line with relevant and current Health and Safety legislation and regulations.

Written and/or oral evidence is required for all Outcomes to demonstrate the candidate has individually met the requirements set out in the Performance Criteria.

The evidence for Outcome 1, 2, and 3 will be obtained through a question paper and Outcomes 2, 3 and 4 in the form of annotated scale drawings. Assessment will take place under closed-book supervised conditions.

These Evidence Requirements will be met by the completion of the Training and Assessment Programme (TAP) Carpentry and Joinery.

## National Unit Specification: support notes

### UNIT Construction Craft Drawing: An Introduction (SCQF level 5)

This part of the Unit Specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

#### GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This Unit has been developed as a mandatory Unit in the Professional Development Award (PDA) in Carpentry and Joinery at SCQF level 6, which is a mandatory component of the Modern Apprenticeship in Carpentry and Joinery.

The content and context of this Unit is aimed at candidates who are pursuing a career in Carpentry and Joinery. The Unit will help candidates to develop an understanding of the principles of accurate setting out and the production of drawings and technical information for construction crafts. It is complemented by Units dealing with related work in the construction crafts and there would be opportunities to integrate with aspects of other PDA Units such as *Carpentry and Joinery: Door Construction*; *Carpentry and Joinery: Window Construction*, *Carpentry and Joinery: Domestic Straight Flight Stairs* and *Carpentry and Joinery: Panelling* at SCQF level 6.

The Unit would be offered to candidates from the construction and related services industries. The skills and knowledge and understanding are transferable within different working environments but the Unit is primarily aimed at candidates whose normal place of work would be a site, workshop or similar environment.

#### Outcome 1

The candidate should be introduced to a reference catalogue of British Standard symbols and abbreviations and encouraged to study this. The candidate should also be introduced to examples of working drawings.

#### Outcome 2

The candidate should be introduced to:

- ◆ Drawing Equipment: drawing boards, board squares T and sliding, set squares 45° and 30°/60°, adjustable squares, protractors, scale rules, compasses, dividers, trammels, drawing pencils, pencil sharpeners, erasers, eraser guards, cartridge paper, drawing sheet sizes, securing of drawing sheets, clips, masking tape.
- ◆ Drawing sheet layout and formatting to current standards.
- ◆ Geometrical terms and principles: straight lines, curved lines, angles, triangles, quadrilaterals, polygons, circles and parts thereof, ellipses and parts thereof. It is imperative that the candidate is made fully aware of the exacting demands required to produce drawings of a high quality. Correct procedures and an attitude of care cannot be overstressed. Correct terminology should be used throughout with best practice in the use of equipment to produce drawings of an acceptable standard being clearly emphasised.

## **National Unit Specification: support notes (cont)**

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#### **Outcome 3**

The candidate should be given guidance on the need to adopt a system for the production of detailed construction drawings to enable all users to interpret the information. This could be achieved by the use of actual construction drawings produced to the required standard by others as examples of good practice. Candidates would then be given the opportunity to produce simple drawings in First Angle Projection of various construction related objects.

#### **Outcome 4**

The candidate should be given guidance on what constitutes:

- ◆ Isometric projection
- ◆ Oblique projection/cavalier/cabinet and planometric
- ◆ Isometric grided drawing paper
- ◆ 'Proportional' pictorial sketching

The candidate should become proficient in setting out and producing scale three-dimensional shapes in isometric and oblique projection and annotated 'proportional' pictorial drawings using isometric paper through the production of formative reference folio.

Health and Safety and Sustainability are integral and key to the Construction Industry therefore throughout the Unit emphasis will be placed where appropriate on the application of Health and Safety and Sustainability. Safety working practices should be looked at in accordance with current safety codes of practice and regulations. Sustainability should include reference to criteria affecting sustainability, impact of not implementing sustainability on the environment and the legislation promoting sustainability.

### **GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT**

This Unit is designed to give candidates the opportunity to develop drawing and sketching skills. This will enable the candidate to produce working drawings and technical information that allows the production of joinery items.

Candidates should be given the opportunity to further develop their skills through visual aids, electronic presentations, DVDs, e-learning, reference books, classroom exercises and group discussions. This teaching approach should ensure the candidate is acquiring the underpinning knowledge and skills required for the Unit.

## National Unit Specification: support notes (cont)

### UNIT Construction Craft Drawing: An Introduction (SCQF level 5)

Where appropriate, opportunities should be taken throughout delivery of this Unit to meet the requirements of the generic Units of the Training and Assessment Programme including:

- ◆ Conform to Efficient Working Practices
- ◆ Conform to General Workplace Safety
- ◆ Move and Handle Resources
- ◆ Confirm Work Activities and Resources for the Work
- ◆ Develop and Maintain Good Working Relationships
- ◆ Confirm the Occupational Method of Work

### OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

There are opportunities to develop the Core Skill of *Problem Solving* at SCQF level 4. Candidates will need to take account of a range of factors in order to work efficiently and safely, such as the choice of drawing equipment, appropriate materials, safety issues and sustainability. Individual discussions with assessors and the use of role play will enhance the evaluation of efficient working practices.

The Core Skill of *Communication* to SCQF level 4 could be developed as candidates complete practical tasks. Drawing is the main form of communication used in the industry and candidates should consider how to enable all users to interpret the information they produce. Individual discussions with peers and assessors and the use of role-play (ie assuming position of general foreman/team leaders) could be used to enhance the evaluation of efficient working practices. Candidates should be expected to communicate with others using the correct terminology, tone and style suited to the workplace.

Opportunities also arise for candidates to develop the Core Skill of *Information and Communication Technology* at SCQF level 3 by researching technical information on construction drawing.

The Core Skill of *Numeracy* can be developed to SCQF level 4 through the interpretation of information from three dimensional working drawings and the practical use of calculations and measuring scales.

### GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

All the Sections of the Carpentry and Joinery Training and Assessment Programme (TAP) provide detailed assessment material for this Unit. It is advised to use the TAP which has been developed centrally by SQA. Any other instruments of assessment used must be comparable to the TAP and have been through prior verification. It is expected that candidates will be given as much practise as possible, prior to being set assessment tasks.

The candidates' knowledge and understanding of the symbols, abbreviations and lines used in construction drawing will be assessed through a question paper and conducted under controlled, supervised conditions.

Outcomes 2, 3 and 4 will be assessed through the production of annotated drawings.

## **National Unit Specification: support notes (cont)**

### **UNIT            Construction Craft Drawing: An Introduction (SCQF level 5)**

#### **Opportunities for the use of e-assessment**

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment, which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

#### **DISABLED CANDIDATES AND/OR THOSE WITH ADDITIONAL SUPPORT NEEDS**

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website [www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements)