



## **National Unit specification: general information**

**Unit title:** Drawing Office Practice (SCQF level 6)

**Unit code:** FT8M 12

**Superclass:** VF

**Publication date:** August 2011

**Source:** Scottish Qualifications Authority

**Version:** 01

## **Summary**

This is a mandatory Unit within the National Certificate in Computer Aided Design and Technology at SCQF level 6 but can also be taken as a freestanding Unit. This Unit is suitable for candidates who would like to pursue a career in CAD and related industries.

The purpose of the Unit is to introduce candidates to the roles and organisational structure of a drawing office. Candidates will investigate and actively participate in drawing, sharing while preparing and modifying drawings, working as part of an office group, following a set of procedures agreed and created by the group.

## **Outcomes**

- 1 Demonstrate an understanding of the roles and organisational structure of a drawing office.
- 2 Produce a drawing office manual to a given brief.
- 3 Prepare drawings to be shared with other users.
- 4 Apply revisions and modifications to drawings from a given specification.

## **Recommended entry**

While entry is at the discretion of the centre, candidates would normally be expected to have attained the following, or equivalent:

- ◆ *F5H5 12: Computer Aided Draughting (CAD) for Engineers*
- ◆ Relevant industrial experience of Computer Aided Draughting and Design

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

**Unit title:** Drawing Office Practice (SCQF level 6)

### **Credit points and level**

1 National Unit credit at SCQF level 6: (6 SCQF credit points at SCQF level 6\*)

*\*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**

Opportunities to develop aspects of Core Skills are highlighted in the support notes of this Unit specification.

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

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

**Unit title:** Drawing Office Practice (SCQF level 6)

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**

Demonstrate an understanding of the roles and organisational structure of a drawing office.

#### **Performance Criteria**

- (a) Identify key internal roles within a drawing office.
- (b) Identify key functions external to an organisation that interact with the drawing office.
- (c) Explain the responsibilities of the identified roles and functions.
- (d) Identify a suitable organisation structure.
- (e) Describe communication between the drawing office and external professionals.

### **Outcome 2**

Produce a drawing office manual to a given brief.

#### **Performance Criteria**

- (a) Identify key sections of the drawing office manual.
- (b) Identify revision procedure controls.
- (c) Describe the steps required to make controlled changes to drawings.
- (d) Produce a drawing office manual.

### **Outcome 3**

Prepare drawings to be shared with other users.

#### **Performance Criteria**

- (a) Prepare detail drawings to a given brief.
- (b) Save and archive drawings in a location that enables sharing with other users.

### **Outcome 4**

Apply revisions and modifications to drawings from a given specification.

#### **Performance Criteria**

- (a) Use archived drawings to produce a complete working drawing.
- (b) Apply revisions and modifications to a given specification in accordance with identified revision procedure.

## **National Unit specification: statement of standards (cont)**

**Unit title:** Drawing Office Practice (SCQF level 6)

### **Evidence Requirements for this Unit**

Evidence is required to demonstrate that candidates have achieved all Outcomes and Performance Criteria.

#### **Outcome 1 Written and/or recorded oral**

To demonstrate an understanding of the roles and organisational structure of a drawing office, the candidate must:

- ◆ Identify a minimum of three internal key roles within a drawing office
- ◆ Identify a minimum of two key functions external to an organisation that interact with the drawing office
- ◆ Explain the responsibilities of the identified roles and functions
- ◆ Identify a suitable organisation structure
- ◆ Describe communication between the drawing office and external professionals

#### **Outcome 2: Product Evidence**

The candidate must produce:

- ◆ A template document for a drawing office manual, containing five principal sections
- ◆ A revisions procedure
- ◆ Instructions to implement the agreed revision procedure
- ◆ One drawing office manual

#### **Outcome 3: Performance Evidence**

In line with the drawing office manual, the candidate must:

- ◆ Prepare a series of drawing files
- ◆ Provide evidence that drawing files have been made available to other users
- ◆ Provide evidence that an agreed process has been followed
- ◆ Save and archive drawings

#### **Outcome 4: Performance Evidence**

In line with the drawing office manual, the candidate must:

- ◆ Revise and modify a series of drawings
- ◆ Provide evidence that an agreed process has been followed

The evidence for this Unit must be produced under open-book conditions throughout delivery of the Unit, with progress monitored by assessors on an ongoing basis.

Outcomes 3 and 4 can be assessed individually and/or holistically, when reference to a 'series of drawings' the quantity will be in reflection of the type of drawings and will be at the discretion of the centre.

## **National Unit specification: support notes**

### **Unit title: Drawing Office Practice (SCQF level 6)**

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 is a mandatory Unit of the National Certificate in Computer Aided Design and Technology at SCQF level 6. It can also be taken as a free-standing Unit.

The purpose of the Unit is to introduce candidates to the roles and organisational structure of a drawing office, therefore candidates could take on individual roles during learning and assessment. Candidates will actively participate in sharing of CAD drawings while preparing and modifying drawings and working as part of an office group. Shared drawings could be individual parts from an assembly to be shared before candidates modify and create an assembly drawing following an agreed procedure.

Candidates will learn about the responsibilities of the principal roles within the drawing office as well as the communication paths between the professionals involved in the process of design. They will investigate organisational structures of various sizes of drawing offices and the function and interaction of the drawing office with other departments and professionals.

### **Guidance on learning and teaching approaches for this Unit**

The focus should be on the procedures and sharing of drawings and making revisions, rather than overly complex drawings. Candidates could be organised into groups with identifiable responsibilities which are representative of the modern drawing office organisation.

Centres can introduce exemplar material of original and revised drawings as well as office manuals created and used in industry for discussion and context.

Guest talks from experienced professionals are recommended as well as visits to relevant drawing offices. Tutors can advise candidates on the choice of suitable source materials that best fulfils the criteria of the Unit.

The drawing office manual and revision procedures produced in Outcome 2 could be used in Outcomes 3 and 4 where drawings are produced.

This Unit could be integrated with other Units assessing the candidate's ability to create CAD drawings.

## National Unit specification: support notes (cont)

**Unit title:** Drawing Office Practice (SCQF level 6)

### Guidance on approaches to assessment for this Unit

The following approaches to assessment are suggested:

A suitable instrument of assessment for this Unit could be a folio of drawings and documentation could be specified in a series of assessment tasks designed to assess the candidate's understanding and ability.

While group work may be used during learning, teaching and assessment, teachers/lecturers must be satisfied that the evidence submitted is the work of individual candidates.

There are opportunities for a combined assessment across the practical assignments for both Outcomes 3 and 4, and individual centres may choose to exploit these opportunities as centre demands dictate.

In Outcome 3 component/detail drawings could be:

- ◆ Architectural: elements such as doors, windows, furnishings and details in various views such as plan, elevation, etc.
- ◆ Engineering: part details, sub assemblies, etc.

In Outcome 3 working drawings could be:

- ◆ Architectural: plans, elevations, site and location plans and servicing drawings.
- ◆ Engineering: full assembly drawings.
- ◆ Checklists could be completed and retained by the centre.

### 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)*.

### Opportunities for developing Core Skills

Candidates may have opportunities to develop aspects of the Core Skill of *Communication* through teacher/lecturer led group discussions.

Candidates have to evaluate, apply and convey a range of complex technical information. Support materials and self assessment checklists could emphasise the requirement for technical accuracy, formal structure and expression in both Oral and Written Communication.

## National Unit specification: support notes (cont)

### Unit title: **Drawing Office Practice (SCQF level 6)**

*Numeracy and Information and Communication Technology (ICT) Skills* will be naturally enhanced as the Unit is achieved. Measurements and calculations will be essential and accurately recorded; data will be interpreted, applied and communicated using graphics and number. Access to technology will support the presentation of documents and diagrams, with use of CAD, or specialist application software to model, simulate or evaluate possible solutions.

All elements of the Core Skill of *Problem Solving*, that is, Critical Thinking, Planning, Organising, Reviewing and Evaluating, will be naturally developed as candidates learn how to plan and complete a CAD assignment.

Assignment activities may provide opportunities to enhance skills in co-operative working. Candidates could be encouraged to analyse a task and its component elements. They could discuss the nature and scope of team roles and responsibilities involved, including safety issues. Feedback from the assessor can encourage self-evaluation of contributions to team working in a laboratory/workshop environment.

### **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)

## History of changes to Unit

Version	Description of change	Date

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