

## Higher National Unit specification

### General information for centres

**Unit title:** Digital Output Systems

**Unit code:** F1V6 35

**Unit purpose:** This Unit will develop the candidates' ability to explain, analyse and classify the use and suitability of digital output systems, their related input file types and output media. The Unit adopts a structured approach to the digital output process from file preparation to classification of outputs. This Unit may be undertaken as part of a course of study in printing or by candidates in relevant employment.

On completion of the Unit the candidate should be able to:

- 1 Explain and analyse digital file types and their suitability for digital output systems.
- 2 Explain and classify the use and calibration of digital output systems.
- 3 Analyse digital output media.

**Credit points and level:** 1 HN credit at SCQF level 8: (8 SCQF credit points at SCQF level 8\*)

*\*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.*

**Recommended prior knowledge and skills:** Access to this Unit is at the discretion of the centre. It would be beneficial if candidates had practical computer skills and an understanding of the pre-press process. This could be demonstrated by the achievement of Units D75X 34 *Information Technology: Applications Software 1*, D976 11 *Desktop Publishing (Intermediate 2)* or D962 11 *Two-Dimensional Design: The Design Process (Intermediate 2)*, or an equivalent qualification or work experience.

**Core Skills:** There are opportunities to develop the Core Skill of Information Technology at SCQF level 5 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

**Context for delivery:** If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

**Assessment:** Outcome 1 could be assessed by means of a practical project. Outcomes 2 and 3 could be assessed by means of a report, the completion of pro formas or a mixture of both. Outcome 2 and Outcome 3 could be integrated and assessed by means of a single project covering both Outcomes. Much of the evidence should arise naturally out of the task/s set for the candidate.

## Higher National Unit specification: statement of standards

## **Unit title:** Digital Output Systems

## **Unit code:** F1V6 35

The sections of the Unit stating the Outcomes, Knowledge and/or Skills, and Evidence Requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the Knowledge and/or Skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

### **Outcome 1**

Explain and analyse digital file types and their suitability for digital output systems

#### **Knowledge and/or Skills**

- ◆ Software applications
- ◆ File type characteristics
- ◆ File types for digital output media

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can create, analyse and modify digital files suitable for use in digital output systems, using appropriate software applications. The evidence should take the form of a tutor-set exercise where candidates create, analyse and modify the following digital file types:

- ◆ Two Bitmap Images
- ◆ One Vector Image
- ◆ One Text File
- ◆ One Page Layout
- ◆ One Preflight Profile
- ◆ One Soft Proof
- ◆ One Certified PDF

Candidates should:

- ◆ correctly identify appropriate software
- ◆ create suitable digital files
- ◆ save files in appropriate formats

The assessment should be carried out under unsupervised open-book conditions. Candidates should draw on experience, textbooks, presentations and handouts to create, analyse and modify the required digital files.

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

**Unit title:** Digital Output Systems

### **Assessment Guidelines**

The assessment for this Outcome will relate to the candidate's involvement in the production of suitable file types for digital output systems. This may be evidenced by means of a single tutor-set assignment which shows the candidate's ability to correctly identify appropriate software, create suitable digital files and save files in appropriate formats.

### **Outcome 2**

Explain and classify the use and calibration of digital output systems.

#### **Knowledge and/or Skills**

- ◆ Digital output systems
- ◆ Calibration procedures

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can analyse the processes involved in the following three distinct classes of digital output systems:

- ◆ image setters
- ◆ plate setters
- ◆ digital proofing systems

and compare the appropriate calibration process for the digital output systems listed above in terms of:

- ◆ densitometry
- ◆ spectrophotometry
- ◆ software calibration
- ◆ hardware calibration

The evidence should take the form of a report of a minimum of 750 words, or the completion of a series of pro formas.

The assessment should be carried out under unsupervised, open-book conditions. Candidates may draw on experience, textbooks, presentations, personal notes and the internet.

### **Assessment Guidelines**

The assessment for this Outcome may consist of a report of a minimum of 800 words, or the completion of a series of pro formas. If a report is used the submission may be in any form, with the prior approval of the tutor.

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

**Unit title:** Digital Output Systems

### **Outcome 3**

Analyse digital output media

#### **Knowledge and/or Skills**

- ◆ Media types
- ◆ Image structures
- ◆ Media characteristics

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by analysing a series of exemplars provided by the tutor which shows that they can:

- ◆ classify a minimum of six types of media used in outputting digital files
- ◆ explain the uses and suitability of the main image structures employed in the printing industry
- ◆ identify a minimum of 15 typical faults in digital output media samples

The assessment should be carried out under supervised, open-book conditions. Candidates should draw on experience, textbooks, presentations and handouts.

#### **Assessment Guidelines**

The assessment for this Outcome could take the form of short answer responses, matching grid and pro formas.

## Administrative Information

**Unit code:** F1V6 35  
**Unit title:** Digital Output Systems  
**Superclass category:** KH  
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### History of changes:

Version	Description of change	Date

**Source:** SQA

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

### **Unit title: Digital Output Systems**

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 was developed as part of the HND Digital Media Group Award where it is an optional Unit. It will introduce candidates to digital output systems. The focus of this Unit is on the specific requirements and industry standard procedures of a modern digital pre-press production area.

Candidates will work with digital files as well as study digital output systems and output media. This Unit will prepare candidates for working in a pre-press environment using the latest industry standard software and hardware.

There are no prescriptive software and hardware facilities. However, tasks should replicate working practices for digital pre-press in terms of software and hardware used in the printing and publishing industries. The relevant facilities should be available to the candidate throughout the duration of the Unit.

Useful background information can be found in a variety of textbooks and software manuals which are widely available from Adobe, Quark, Peachpit Press etc. There may be helpful tutorials from the World Wide Web, eg [agfa.com](http://agfa.com), [Heidelberg.com](http://Heidelberg.com), [adobe.com](http://adobe.com), [quark.com](http://quark.com), although these should be carefully worked through prior to recommending to candidates to ensure that vital stages have not been omitted.

Outcome 1 could take the form of a tutor-set exercise which comprises of a single publication incorporating the following digital file types:

- ◆ Two Bitmap Images
- ◆ One Vector Image
- ◆ One Text File
- ◆ One Page Layout
- ◆ One Preflight Profile
- ◆ One Soft Proof
- ◆ One Certified PDF

It is recommended that candidates be encouraged to carry out their investigations for Outcomes 2 and 3 into the analysis and comparison of digital output devices and digital media properties from the beginning of the Unit delivery, and be given sufficient time and be provided with adequate access to resources (eg manuals, internet, books).

## Higher National Unit specification: support notes (cont)

### Unit title: Digital Output Systems

The tutor-set exercises should cover all of the following aspects of digital output systems and digital media characteristics:

- ◆ image setters
- ◆ plate setters
- ◆ digital proofing systems
- ◆ densitometry
- ◆ spectrophotometry
- ◆ software calibration
- ◆ hardware calibration
- ◆ media types
- ◆ image structures
- ◆ media characteristics

### Guidance on the delivery and assessment of this Unit

Although candidates should become familiar with a range of software packages during the delivery of the Unit, emphasis should not be placed on software specific skills but rather on the specific knowledge and skills required within the Unit. This will ensure that revisions of software do not impact on the underlying knowledge and skills acquired through the achievement of the Unit.

The Unit is expressed in three separate Outcomes. Outcome 1 may be assessed through the use of a tutor-set practical exercise, which covers all of the Evidence Requirements for the Knowledge and/or Skills requirement. Assessment for Outcome 2 may relate to the candidate's involvement in the production of a report relevant to the classification of digital output systems, their uses and their calibration requirements. The assessment for Outcome 3 could take the form of short answer responses, matching grid and pro formas.

Candidates who have studied Graphic Design, Desktop Publishing or Printing at introductory levels should be enabled to develop and stretch their knowledge and skills.

#### *Opportunities for developing Core Skills*

This Unit offers opportunities to further develop and extend the Core Skill Information Technology at SCQF level 5. Development of all elements is seen as a requirement of the Unit. In particular the Unit will provide the candidate with the opportunity to develop their experience of a range of design and pre-press software and the integration of files.

### Open learning

If this Unit is delivered by open or distance learning methods, additional planning and resources may be required for candidate support, assessment and quality assurance. A combination of new and traditional authentication tools may have to be devised for assessment and reassessment purposes, eg colour managed on screen presentations.

For further information and advice, please see the SQA document, *Assessment and Quality Assurance for Open and Distance Learning* which is available on SQA's website ([www.sqa.org.uk](http://www.sqa.org.uk)).

## **Higher National Unit specification: support notes (cont)**

**Unit title:** Digital Output Systems

### **Candidates with disabilities and/or additional support needs**

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* ([www.sqa.org.uk](http://www.sqa.org.uk)).



## **General information for candidates**

### **Unit title:** Digital Output Systems

This Unit will introduce you to Digital Output Systems for the print industry. It has three main areas, each of which is the subject of a separate Outcome. Initially you will analyse digital files and their uses within the pre-press environment. You will then study the different forms of digital output systems. Finally you will identify different output media and typical faults.

No matter which area of the industry you wish to become involved in, this Unit will provide you with an understanding of the digital output process and its importance and relationship to the management and production processes.

This Unit will enable you to develop and evaluate Digital Output Systems for print in terms of suitability and use, as well as to plan a strategy for the process. It is both practical and theory based. On completion of this Unit the knowledge and skills you have acquired will give you a greater understanding of Digital Output Systems for the print industry.

Assessment may be by means of individual assessment for each of the three Outcomes.

In undertaking this Unit you will develop Core Skills in IT. The Unit offers opportunities to further develop and extend the Core Skill Information Technology at SCQF level 5. In particular the Unit will provide the candidate with the opportunity to develop their experience of a range of design and pre-press software and the integration of files.