

## Higher National Unit Specification

### General information for centres

**Unit title:** Printing: Quality Management System

**Unit code:** FOPT 34

**Unit purpose:** This Unit is designed to enable the candidate to describe and evaluate the key elements of quality management systems in use in printing and related industries. This Unit may be taken as part of a course of study in printing or by candidates in relevant employment. It is suited to candidates who expect to take up a senior position in the print industry.

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

- 1 Describe the key elements of current ISO quality assurance standards.
- 2 Describe the key components of a total quality management system.
- 3 Evaluate the relationship between process capability and variation.

**Credit points and level:** 1 HN Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7\*)

*\*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 possessed an awareness and understanding of practical and administrative aspects of printing organisation. This could be demonstrated by the achievement of the HN Units: Printing Production Processes, and Printing: Quality Control at SCQF level 7, equivalent qualifications or relevant work experience.

**Core Skills:** There are opportunities to develop the Core Skills of Numeracy and Communication 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:** Assessment will be through a mixture of responses to short answer questions or case studies. Outcomes 1 and 3 will be undertaken in open-book controlled conditions and Outcome 2 should be taken under closed-book controlled conditions. The use of calculators will be permitted for Outcome 3.

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

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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**

Describe the key elements of current ISO quality assurance standards

#### **Knowledge and/or skills**

- ◆ Reasons for adopting a quality management system
- ◆ Key elements contained in current ISO documentation
- ◆ Cultural aspects of quality within organisations
- ◆ Implementation of current ISO and registration

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their knowledge and skills by showing that they can accurately describe the key elements of current ISO quality assurance standards. The description should include:

- ◆ valid argued reasons for adopting a quality management system
- ◆ clear outlines of the main elements in current ISO standards
- ◆ a description which recognises the cultural aspects of quality within organisations
- ◆ clear guidelines on how ISO would be implemented and registered

#### **Assessment guidelines**

Candidates should be provided with a brief which covers all four areas of knowledge and skills. A presentation which satisfactorily covers all of the areas should be generated under open-book supervised conditions. Presentation may be by any method available to the candidate; a permanent record should also be submitted.

Assessment may be by group presentation in which each member delivers one section of the overall presentation.

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

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### **Outcome 2**

Describe the key components of a total quality management system

#### **Knowledge and/or skills**

- ◆ The role played by management commitment
- ◆ The role played by individuals and teams
- ◆ The role of reliable data and statistical process control
- ◆ The role of individuals and continual improvement

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their knowledge and skills by showing that they can describe the key components to a total quality management system. This description should include:

- ◆ clear identification and description of the role of management, individuals and teams to the system
- ◆ identification of the use of data and statistical process control in managing and quality assuring processes
- ◆ the importance of the individuals' contribution to continuing improvement

There should be two questions on each area of knowledge and skills. This assessment will be carried out under closed-book controlled conditions.

#### **Assessment guidelines**

Assessment may be by means of short answer questions or case studies.

### **Outcome 3**

Evaluate the relationship between process capability and variation

#### **Knowledge and/or skills**

- ◆ Assignable and random causes of variation
- ◆ Objective raw data
- ◆ Statistical data
- ◆ Levels of acceptance for printing production

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their knowledge and skills by showing that they can evaluate the relationship between process capability and variation. This evaluation should include:

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

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- ◆ identification of sources and types of data needed for evaluation purposes
- ◆ correct use of raw data and statistical data
- ◆ correct use of statistical tools
- ◆ identification of relationships of statistics to levels of tolerance and accurate identification of acceptable variations
- ◆ formation of conclusions which are justified and accurately reflect the evidence given

This assessment will be carried out under open-book supervised conditions; candidates may refer to a booklet of statistical techniques.

### **Assessment guidelines**

The assessment may consist of a practical assignment in which the candidate uses a range of statistical data and tools to evaluate tolerance levels within a printing production process.

## Administrative Information

**Unit code:** F0PT 34  
**Unit title:** Printing: Quality Management System  
**Superclass category:** VD  
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### History of Changes:

Version	Description of change	Date

**Source:** SQA

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SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of Higher National qualifications.

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

### **Unit title: Printing: Quality Management System**

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 HNC/D Printing and is a mandatory Unit in the HND. It is intended for students who are taking a printing qualification at Higher National level, or who have experience in quality and related areas in the printing industry, and who wish to further their knowledge and experience.

This Unit introduces candidates to quality management systems and the implications and expectations of the organisations which choose to adopt these systems. The candidate will identify ways in which quality can be evidenced and controlled.

#### **Outcome 1**

Outcome 1 will examine the key contents of quality assurance relevant to the workforce, management and assessing bodies, in the implementing and registration of a successful printing organisation.

#### **Outcome 2**

This Outcome will identify the key elements necessary for the continuous improvement of processes by all staff in a printing organisation to ensure customer quality expectations are met at all times. These elements include management commitment, team work, and statistical process control.

#### **Outcome 3**

This Outcome examines the relationship between variance and process capability, and investigates control systems and gathering of evidence of importance in the customer/supplier relationship.

Practical use of statistics in the form of standard deviation or other calculations and the use of control charts will form the main component for this Outcome.

Outcome 3 will concentrate on the use of statistical data and it would be helpful if current figures from the print industry are available for use.

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

Ideally much of this Unit should be delivered through the medium of mini-case studies which would familiarise candidates with the kind of systems in use within the print industry.

Assessment will be through a mixture of responses to short answer questions or case studies.

Outcomes 1 and 3 will be undertaken in open-book controlled conditions and Outcome 2 should be taken under closed-book controlled conditions. The use of calculators will be permitted for Outcome 3.

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

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### *Opportunities for developing Core Skills*

There are opportunities to develop the Core Skill of Numeracy at SCQF level 5. Outcome 3, Knowledge and skills statement incorporates the need for the use of statistical data to evaluate tolerance levels within a printing production process. This will also require the preparation and interpretation of graphical data. It is important that the tutor reviews the underpinning knowledge required to undertake this numeric work and that the candidate becomes confident in applying this in other contexts.

The Core Skill of Communication at SCQF level 5 will also be developed in this Unit. Candidates will have to show evidence of summarizing, extracting key points and applying these points to a given scenario. They will also require to present their assessment in written or oral format.

### **Open learning**

This Unit is suited to delivery by distance learning provided that the candidate has prior knowledge of printing production. The candidate attending college will however have the advantage of involvement with presentations, the opportunity of group interaction and questions and answer sessions. The candidate would require a computer with Internet access and appropriate software.

Special arrangements might need to be made to ensure supervised conditions for assessment purposes. Additionally candidates could be individually questioned to authenticate the evidence generated for this Unit.

For further information and advice, please see the SQA guide, *Assessment and Quality Assurance of Open and Distance Learning* ([www.sqa.org.uk](http://www.sqa.org.uk)).

### **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. For information on these, please refer to the SQA document *Guidance on Alternative Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs*, which is available on SQA's website: [www.sqa.org.uk](http://www.sqa.org.uk).

## **General information for candidates**

### **Unit title: Printing: Quality Management System**

This Unit will provide you with an understanding of quality assurance and total quality management in the context of the printing industry. You will gain knowledge in the following areas:

- ◆ Appreciation of the many factors, human and operational involved in working towards gaining registration under current ISO requirements.
- ◆ Operating within the context of current ISO requirements.
- ◆ The benefits to a printing company and its customers.
- ◆ The expectations of customers.
- ◆ Gathering of production data and the control process for a printing company.