



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

**Unit title:** Offset Lithographic Machine Printing: Two Colour Text and Line (SCQF Level 6)

**Unit code:** FV5A 12

**Superclass:** KH

**Publication date:** September 2011

**Source:** Scottish Qualifications Authority

**Version:** 02

## **Summary**

The purpose of this Unit is to provide candidates with knowledge and skills in offset lithographic printing. Candidates will be able to acquire practical skills in the safe use of equipment and materials and will produce two colour prints consisting of text and line to a commercial standard.

The Unit is intended for candidates who are undertaking a specialist programme in offset lithographic printing and want to develop their skills in producing two colour text and line prints.

This is a mandatory Unit within the National Certificate in Screen Printing at SCQF level 5. It can also be taken as a free standing Unit. It is suitable for school leavers and adult learners who are undertaking a screen printing course or who are already working in the industry.

## **Outcomes**

- 1 Describe the principles of offset lithographic printing.
- 2 Prepare artwork, materials and equipment for lithographic printing.
- 3 Produce two colour text and line quality prints.

## **Recommended entry**

While access is at the discretion of the centre, it is envisaged that candidates may have progressed from a foundation level course in a print related discipline, such as Creative Crafts and Photography.

## General information (cont)

**Unit title:** Offset Lithographic Machine Printing: Two Colour Text and Line (SCQF Level 6)

### Core Skills

Achievement of this Unit gives automatic certification of the following Core Skills component:

- ◆ Critical Thinking at SCQF level 5

There are also opportunities to develop aspects of Core Skills which are highlighted in the Support Notes of this Unit specification.

### 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.*

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

### **Unit title:     Offset Lithographic Machine Printing: Two Colour Text and Line (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.

All activities must be carried out in compliance with current health and safety legislation with particular reference to the safe use of machinery, materials and equipment used in the screen printing industry.

#### **Outcome 1**

Describe the principles of offset lithographic printing.

##### **Performance Criteria**

- (a) Describe offset lithographic printing presses.
- (b) Describe the correct process for offset lithographic printing.
- (c) Describe the materials which are used in offset lithographic printing.

#### **Outcome 2**

Prepare artwork, materials and equipment for lithographic printing.

##### **Performance Criteria**

- (a) Research and select artwork suitable for lithographic two colour text and line printing that meets the requirements of a supplied brief.
- (b) Produce lithographic plates that accurately reproduce the artwork and are of press quality.
- (c) Handle materials safely and correctly.
- (d) Make ready a printing press for the accurate production of printed sheets.

#### **Outcome 3**

Produce two colour text and line quality prints.

##### **Performance Criteria**

- (a) Operate an offset lithographic printing press safely and produce two colour text and line prints to commercial standards.
- (b) Carry out quality check against a given specification.
- (c) Comply with current health and safety requirements during activities.

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

**Unit title:** Offset Lithographic Machine Printing: Two Colour Text and Line (SCQF Level 6)

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

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

Written and/or oral and performance evidence which covers all the Outcomes and Performance Criteria is required. The evidence will be generated from assignments in response to a given brief which will include written/oral or recorded and performance evidence produced in supervised workshop conditions. All activities must be carried out in compliance with current health and safety legislation.

#### **Outcome 1 — Written/oral or recorded evidence**

The evidence will be produced under closed-book conditions and must include:

- ◆ a description of a range of single and two colour lithographic printing presses including:
  - parts, controls and functions for one single lithographic printing press and one two colour lithographic printing press
- ◆ an accurate description of the offset lithographic printing process
- ◆ a description of the range of materials which are used in offset lithographic printing including:
  - press inks
  - fount solutions
  - aluminium printing plates
  - offset blankets
  - offset printing papers
  - cleaning agents and solvents

#### **Outcome 2 — Performance and product evidence**

The evidence will be produced under supervised open-book conditions in accordance with the given brief. The evidence must include:

- ◆ a selection of suitable line artwork which includes two separations for two colour text and line printing
- ◆ two lithographic printing plates which must be prepared and processed correctly and of press quality
- ◆ demonstration by the candidate that the materials are handled correctly
- ◆ safe and effective preparation of the printing press for text and line printing

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

**Unit title:** Offset Lithographic Machine Printing: Two Colour Text and Line (SCQF Level 6)

### **Outcome 3 — Performance and product evidence**

Performance and product evidence must be provided under open-book supervised conditions, in accordance with the given brief. The evidence must include:

- ◆ safe and effective operation of offset lithographic printing press machinery, including attention to quality control
- ◆ production of two colour text and line prints to industry standard
- ◆ completion of 30 two colour text and line printing to an acceptable commercial standard
- ◆ quality standards which are achieved with the matching of two colour text and line prints to an agreed specification
- ◆ the candidate demonstrating safe working practice under current Health and Safety legislation at all times

## National Unit specification: support notes

**Unit title:** Offset Lithographic Machine Printing: Two Colour Text and Line (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 an optional Unit from the National Certificate in Screen Printing at SCQF level 5. It can also be delivered as a free standing Unit. This Unit is designed to introduce the candidate to skills required by lithographic printers working in commercial printing or screen printing industry. It focuses on preparing artwork, materials and using equipment safely to produce two colour text and line prints. As candidates will operate an offset lithographic printing press and use solvents/chemicals it is essential that they observe safe working practices in accordance with the current safety codes of practice and regulations. The assessor will compile an observation checklist for each candidate that covers all aspects of safe working practices.

The Unit enables candidates to gain skills and knowledge relative to offset lithographic two colour text and line printing. The Unit includes the preparation of artwork, materials, make ready and running a printing press producing two colour text and line prints.

Outcome 1 enables candidates to gain knowledge and understanding of offset lithographic equipment, techniques, terminology and materials which will include:

- ◆ press inks
- ◆ fount solutions
- ◆ aluminium printing plates
- ◆ offset blankets
- ◆ offset printing papers
- ◆ cleaning agents and solvents

The candidate will generate and prepare artwork which will be used in the context of two colour text and line printing. It also requires the production of printing plates which are used in the assignments. Materials are likely to include papers, inks, plates and fountain solutions which will be used in the make ready of an offset lithographic press. The printing press will be set up in accordance with the manufacturer's instructions and will include:

- ◆ safety check including guards
- ◆ feeder and delivery system set up
- ◆ ink duct adjustment
- ◆ ink/water balance
- ◆ printing plate alignment
- ◆ printing pressure adjustment
- ◆ sheet feeding
- ◆ check sheets for quality and position.
- ◆ make necessary machine setting adjustments.
- ◆ produce printed sheets

## National Unit specification: support notes (cont)

### Unit title: Offset Lithographic Machine Printing: Two Colour Text and Line (SCQF Level 6)

The maintenance of a clean and tidy work area including the organisation of tools and materials before, during and after use is paramount in complying with relevant health and safety regulations.

The candidate will be expected to operate an offset lithographic printing press and to produce 30 two colour text and line printed sheets. Candidates should also explore the need for this style of printing in the context of advertising medium as flyers and magazine styles. Candidates may also control the running of a lithographic printing press which will assist in the quality aspect for two colour text and line printed work and will include:

- ◆ control of register on the run
- ◆ control of colour maintenance
- ◆ control print quality in accordance with quality print parameters
- ◆ press wash-up and cleaning down of equipment
- ◆ preservation and storage of printing plates

As candidates will operate an offset lithographic printing press and use solvents/chemicals it is essential that safe working practices in accordance with the current safety codes of practice and regulations.

This Unit aligns to the following National Occupational Standards from Proskills:

- ◆ Plan image layout for printing — 102
- ◆ Prepare inks — 206
- ◆ Identify and organise the requirements for printing — 006

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

This Unit is designed to enable candidates to enhance their lithographic printing skills. The candidate will use the appropriate lithographic techniques in order to produce two colour text and line prints that meet the quality requirements of the given brief.

The candidate could be given notes detailing the process of lithographic printing equipment, terminology, materials, safety regulations and safe working practices. All this information should be reinforced in class discussions and practical demonstrations by the tutor.

The delivery for this Unit will incorporate candidate research for suitable images, tutor demonstration and/or presentation of materials, equipment and methods of working in order to provide two colour text and line printed sheets. Recognised industry working practices should be fully explained, demonstrated and practised including manual handling techniques and posture. As the Core Skill *Working with Others* is prevalent in this Unit, tutors should utilise the opportunities indicated and reinforce the importance of team working within the industry setting.

Formative work on team building and group dynamics should be undertaken, where practical, along with instruction on the basics of self appraisal and group negotiation. A key element in the task should involve others and it would be acceptable for the practical task to be assigned to groups.

## National Unit specification: support notes (cont)

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It may also be possible to link this Unit with any relevant work experience schemes which the candidate undertakes as part of their programme of study. Candidates will also investigate and apply current health and safety regulations for lithographic printing through research carried out on the Internet and other sources. It would be helpful for candidates to visit a printing organisation as part of their studies and current industry DVDs may also be useful in the delivery of this Unit.

### Guidance on approaches to assessment for this Unit

Outcome 1 may be assessed through graphic representation of a lithographic printing press, lithographic process and materials. The graphic representation should cover all Performance Criteria in the Outcome. The assessment should take place in closed-book controlled conditions on a single occasion and where the candidate provides evidence orally, the assessor must complete an assessor checklist.

Outcomes 2 and 3 can be integrated as a practical assessment under open-book conditions. Candidates will be provided with instructions and demonstrations outlining the tasks to be undertaken during the preparation of materials and equipment for lithographic printing. The performance level will be assessed during practical activities by an observation checklist.

Outcome 3 can be integrated as a practical assessment under open-book conditions. Candidates will be provided with instructions and demonstrations outlining the tasks to be undertaken during the operation of a lithographic printing press. Candidates are given a supply of suitable printing paper which will be transformed into end products using lithographic printing press machinery.

The performance level will be assessed during practical activities by an observation checklist.

### 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 social software. 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)*.



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

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### **Opportunities for developing Core Skills**

In this Unit candidates will have the opportunity to develop *Working with Others* during team building and group dynamics particularly when setting up a printing press. Opportunities also arise for candidates to develop the Core Skill of *Information and Communication Technology (ICT)* when generating artwork for the printing plate making process. *Numeracy* will be naturally enhanced through the practical use of paper and ink calculation. Although not formally assessed, as candidates complete practical tasks they should be expected to develop aspects of *Communication* with others using the correct terminology, tone and style appropriate to the workplace.

### **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
02	Core Skills Component Critical Thinking at SCQF level 5 embedded.	29/09/2011

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