

## Higher National Unit Specification

### General information for centres

**Unit title:** Furniture: Powered Equipment

**Unit code:** F0XK 35

**Unit purpose:** This Unit is designed to introduce candidates to a range of powered furniture equipment commonly employed in the furniture industry and to study the function and safe working practices of the equipment.

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

- 1 Describe the potential uses of machines and hand power tools.
- 2 Interpret and apply current Health and Safety legislation.
- 3 Design a jig or template and demonstrate its use.

**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. However, it would be beneficial if candidates had experience of furniture making or relevant work experience. This could be evidenced by possession of the Unit E9DO 10 *Power Tools*.

**Core Skills:** There are opportunities to develop the Core Skills of IT, Communication and Problem Solving 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 for Outcome 1 will take the form of an open-book extended response question which will test the candidate's knowledge of the potential of machine and hand power tools used in the furniture industry. Outcome 2 could take the form of a risk assessment based on the machines described in Outcome 1. This will test current health and safety legislation applied to machine and hand power tools employed in the furniture industry. Outcome 3 will be assessed by observing the candidate demonstrating the use of equipment and the use of the jig or template designed by the candidate.

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

**Unit title:** Furniture: Powered Equipment

**Unit code:** F0XK 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**

Describe the potential uses of machines and hand power tools

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

- ◆ Types of machine
- ◆ Types of hand power tools
- ◆ Machine action
- ◆ Fixed or movement articulation
- ◆ Attachments
- ◆ Tooling

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can describe the potential use and operation of at least four machines or hand power tools used in the furniture industry. Each description should include:

- ◆ the correct name of the machine or hand tool
- ◆ an explanation of the machine action
- ◆ a minimum of two potential uses of each machine or tool
- ◆ a clear explanation of attachments and their uses
- ◆ an accurate description of tooling
- ◆ identification of fixed or movement articulation
- ◆ safe working practices of the equipment

#### **Assessment guidelines**

This could be tested under open-book conditions where the candidate could be asked to respond to a short case study which names four machines which are being purchased for a small workshop. The candidate could be asked to justify the purchase of each of these machines in terms of the K&S listed above to make the case for purchasing each machine. Alternatively candidates should be asked to describe four machines or hand power tools used in furniture construction or restoration. This Outcome could be linked with Outcome 2 and 3.

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

**Unit title:** Furniture: Powered Equipment

### **Outcome 2**

Interpret and apply current Health and Safety legislation

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

- ◆ Manufacturer's instructions for individual equipment
- ◆ Protective clothing
- ◆ Current health and safety legislation
- ◆ Good working practices
- ◆ Risk assessment

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ research current health and safety legislation requirements in the workshop
- ◆ identify good working practices in the workshop
- ◆ apply health and safety requirements to given tasks or environments

#### **Assessment guidelines**

Candidates could be asked to write a risk assessment for each of the four machines described in Outcome 1. This risk assessment could be compiled on a provided pro forma with subsections which indicate what information has to be provided.

### **Outcome 3**

Design a jig or template and demonstrate its use

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

- ◆ Function
- ◆ Tooling
- ◆ Speed, accuracy and operator fatigue
- ◆ Safety aspects
- ◆ Cost

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can, with reference to a given brief:

- ◆ research attachments and tooling available for the equipment identified in the given brief
- ◆ design and demonstrate a jig or template

The jig or template should be fit for purpose, be operated correctly and should improve the speed and accuracy of operator use. The demonstration of the use of the jig or template should be recorded on an observation checklist.

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

**Unit title:** Furniture: Powered Equipment

### **Assessment guidelines**

Candidates could work from a case study/brief requiring them to select a range of attachments from manufacturers' catalogues and design a suitable jig or template to improve production with respect to speed, accuracy and operator fatigue. The application of this jig or template should also be demonstrated.

## Administrative Information

**Unit code:** F0XK 35  
**Unit title:** Furniture: Powered Equipment  
**Superclass category:** WK  
**Original date of publication:** November 2006  
**Version:** 01

### History of Changes:

Version	Description of change	Date

**Source:** SQA

© Scottish Qualifications Authority 2006

This publication may be reproduced in whole or in part for educational purposes provided that no profit is derived from reproduction and that, if reproduced in part, the source is acknowledged.

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

Additional copies of this Unit specification can be purchased from the Scottish Qualifications Authority. Please contact the Customer Contact Centre for further details, telephone 0845 279 1000.

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

### **Unit title:** Furniture: Powered Equipment

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 forms part of the HNC/HND Furniture. It is an optional Unit in the HNC and a mandatory Unit in the HND.

This Unit introduces candidates to a range of equipment used in the furniture industry. The functions and safe working practices of the equipment are studied.

Fixed or movement articulation relates to the machine moving while it is working. A portable hand router can be held in a table, making it a fixed machine, or the workpiece could be clamped and the router could be clamped to travel around or through the piece.

#### **Outcome 1**

The candidate should learn about the different types of equipment available to them — these should reflect the nature of work undertaken. The range of equipment and could include:

- ◆ Powered router
- ◆ Jigsaw
- ◆ Circular hand power saw
- ◆ Electrical and pneumatic sanders
- ◆ Hot wire cutters
- ◆ Laser cutters
- ◆ Foam cutters
- ◆ Sewing machines

The above list is not exhaustive.

#### **Outcome 2**

- ◆ Knowledge of current legislation as it applies to selected equipment.
- ◆ Identification of risks in the workplace of equipment usage.

#### **Outcome 3**

- ◆ Design of a jig or template for a specific application.

Candidates should gain practice in designing dedicated jigs and templates for use in the workshop. This can be done through demonstration and working as a group. The importance of speed, accuracy, operator fatigue and safety should be stressed as part of the design process and should be paramount throughout the Outcome.

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

**Unit title:** Furniture: Powered Equipment

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

This Unit is a mandatory Unit within the HND Furniture Group Award. It should be delivered in conjunction with other appropriate workshop based Units eg *Furniture Workshop Practice*, *Furniture Machines* and is integral to the award of HND Furniture.

#### **Outcome 1**

The study of tooling and attachment catalogues and internet retailers should be positively encouraged during the delivery of this Outcome.

#### **Outcome 2**

Current and emerging legislation should be studied and the risk issues should be relevant to the machine recommended usage.

#### **Outcome 3**

Candidates could design the jig/template in conjunction with other Units and this could be presented as part of a larger project.

It is anticipated that this SCQF level 8 Unit could be assessed along with other relevant Units eg *Furniture Workshop Practice* and *Furniture Machines* and as part of a candidate project. The individual Outcomes need not be assessed separately and could be part of an overall holistic assessment. However, it is important that a record of activity and a dedicated checklist are kept as part of a holistic project checklist.

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

In Outcome 1 candidates will have to use Internet skills for research. They will also use the Internet to undertake research into health and safety aspects of furniture equipment for Outcome 2. It is anticipated that any work to be submitted, in written format, would be word processed by the candidate. Candidates could be encouraged to use digital imaging for Outcome 3.

Problem solving will be covered by Outcome 3 where candidates are asked to design a jig/template to meet with a prescribed function. This would require the candidate to plan, develop and evaluate their solution in terms of suitability and use. They would have to make any alterations to the design if the result of their evaluation indicated any shortcomings.

Candidates are likely to develop their written communication skills in this Unit. They will be required to interpret and apply and to describe in Outcomes 2 and 1 respectively. This means that they will be using Communication skills in reading and writing.

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

**Unit title:** Furniture: Powered Equipment

### **Open learning**

This Unit is not suitable for distance learning as a large proportion of the content is practical work that involves the use of electrical power tools. This has health and safety implications which cannot be monitored from distance.

For further information and advice, please refer to the SQA guide *Assessment and Quality Assurance for 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:** Furniture: Powered Equipment

You will learn how to use powered equipment in this Unit. Before you start working with any kind of power tool you will learn about its potential uses and you should be able to describe different aspects of the tool — how it works, what it is used for, how the moving parts work etc.

It is important that you know about any relevant Health and Safety legislation which applies to using tools of this type. You will learn how to research aspects of health and safety and you will be asked to apply your research to machines you are working with. An important aspect of workshop practice is risk assessment and you will write risk assessments as part of your assessment in this Unit.

Power tools often use jigs and templates and you will learn how to design a jig or template in this Unit and demonstrate its use. You will have to think about health and safety implications and you will have to bear in mind the speed and accuracy of operator use when you are designing your jig or template. You will have to demonstrate the jig or template in use.

In undertaking this Unit you will also develop the Core Skills of IT, through research and word processing your findings. Communication skills will also be developed and so will your Problem Solving skills.