



National Unit specification: general information

Unit title: Stringed Instruments: Manufacture Instrument Body Components (SCQF level 6)

Unit code: H1Y3 12

Superclass: LJ

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Version: 02

Summary

This Unit enables candidates to produce the components required to make an instrument body. Candidates will also undertake research to provide a plan from which to construct instrument body components. The Unit provides candidates with an introduction to the methods of musical instrument manufacture and construction. The constituent components of stringed musical instrument bodies are described and the manufacturing process for individual parts is explained.

This is a mandatory Unit within the National Certificate in Stringed Musical Instrument Making and Repair at SCQF level 6, but can also be taken as a freestanding Unit.

Outcomes

- 1 Investigate instrument body designs specifications and plans.
- 2 Plan the construction of an instrument body.
- 3 Select and identify materials to construct and instrument body.
- 4 Construct an instrument body.

Recommended entry

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

- ◆ *Stringed Instruments: Woodworking Skills* (SCQF level 5)
- ◆ *Stringed Instruments: Manufacture of an Instrument Body Components* (SCQF level 5)

General information (cont)

Unit title: Stringed Instruments: Manufacture Instrument Body Components (SCQF level 6)

Credit points and level

3 National Unit credits at SCQF level 6: (18 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

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

Complete Core Skill None

Core Skill 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.

National Unit specification: statement of standards

Unit title: Stringed Instruments: Manufacture Instrument Body Components (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

Investigate instrument body designs specifications and plans.

Performance Criteria

- (a) Investigation requirements are identified.
- (b) Investigation is appropriate to the type of instrument body chosen for construction.
- (c) Investigation is accurately documented.

Outcome 2

Plan the construction of an instrument body.

Performance Criteria

- (a) Select an appropriate design for an instrument body.
- (b) Select appropriate specifications for an instrument body.

Outcome 3

Select and identify materials to construct an instrument body.

Performance Criteria

- (a) Appropriate materials are selected.
- (b) The local and botanical names of selected timbers are accurately identified.
- (c) The densities of selected timbers are accurately identified.

Outcome 4

Construct an instrument body.

Performance Criteria

- (a) Fabricate an instrument front correctly.
- (b) Fabricate an instrument back correctly.
- (c) Manufacture braces correctly.
- (d) Manufacture blocks and linings correctly.
- (e) Fabricate instrument ribs correctly.
- (f) Processes performed using appropriate tools.
- (g) Health and safety requirements are adhered to.

National Unit specification: statement of standards (cont)

Unit title: Stringed Instruments: Manufacture Instrument Body Components (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 oral evidence is required, to be gathered under open-book conditions. Candidates must initially identify the requirements for their investigation. This must include:

- ◆ the instrument body they have chosen to investigate
- ◆ what information they require to build the instrument body
- ◆ where they will find this information
- ◆ how the information could be researched, gathered and recorded

Candidates must investigate a minimum of four designs and specifications relating to their chosen instrument body which must be gathered from four different sources.

Outcome 2

Evidence is required which demonstrates that the plan selected is an appropriate design and specification for the type of instrument body chosen for manufacture.

Outcome 3

Candidates must provide a record of body materials which includes the following:

- ◆ local name and botanical name of all the timbers selected
- ◆ density of the main timber used in the body construction, this does include inlays

Outcome 4

Performance evidence is required which demonstrates that:

A record of the completed front and back plate is recorded which includes:

- ◆ the fundamental frequency of the completed front (braced and with soundhole) and back plate (braced)
- ◆ a diagram of front and back plate thickness
- ◆ the weight in grams of the completed front and back plates

National Unit specification: statement of standards (cont)

Unit title: Stringed Instruments: Manufacture Instrument Body Components (SCQF level 6)

Product evidence is required in the form of body components which must be completed, ready for assembly. Each of these should conform to the specifications prescribed by the plan. These components will include:

- ◆ front
- ◆ back
- ◆ braces
- ◆ blocks
- ◆ linings
- ◆ ribs

Performance evidence is required which demonstrates that:

- ◆ candidates use the appropriate tools and machinery in the correct manner to suit each task
- ◆ the candidates adhere to the health and safety regulations and guidelines which apply to the workshop environment and use of hand-tools and machinery

National Unit specification: support notes

Unit title: Stringed Instruments: Manufacture Instrument Body Components (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 120 hours.

Guidance on the content and context for this Unit

Candidates completing this Unit will be working towards aspects of the following National Occupational Standards (NOS) from Creative and Cultural Skills.

- ◆ Craft: CR13 Select and use techniques, materials, tools and equipment for craft
- ◆ Craft: CR14 Prepare and maintain materials, tools and equipment for craft
- ◆ Craft: CR15 Use safe working practices and spaces for craft
- ◆ Craft: CR16 Complete the craft making process
- ◆ Craft: CR17 Document and record craft work and work practice
- ◆ Craft: CR51 Maintain and repair craft work
- ◆ Craft: CR52 Restore, conserve and reconstruct work in craft
- ◆ Craft: CR56 Make sure your own actions reduce risks to health and safety

This is a mandatory Unit within the National Certificate in Stringed Musical Instrument Making and Repair (SCQF level 6), but can also be taken as a freestanding Unit.

This Unit enables candidates to demonstrate an understanding of the theoretical and practical aspects of musical instrument manufacture. It is most effective when combined with the Unit *Stringed Instruments: Manufacture of an Instrument Neck* (SCQF level 6), as this will enable candidates to manufacture all of the components required to construct an instrument.

Consideration should be given to the information required to provide a body plan and the manner in which this information could be researched, gathered and recorded.

Candidates will gather information relating to a minimum of at least four instruments. Candidates may then decide to use an existing plan which they have identified through research or to produce their own plan using data collected from the research. This Unit may also be integrated with the following Units:

- ◆ *Stringed Instruments: Design Project* (SCQF level 6)
- ◆ *Stringed Instruments: Instrument Inlay and Soundhole Cutting Techniques* (SCQF level 6)

To gain knowledge and understanding of the materials it will be useful to record the local and botanical names of timber, the timber density and the end-grain orientation. Recording the plate frequencies, plate weights and plate thicknesses may help candidates to better understand the acoustic properties of their instruments in the future.

National Unit specification: support notes (cont)

Unit title: Stringed Instruments: Manufacture Instrument Body Components (SCQF level 6)

It is necessary that candidates clearly recognise the relationship between the neck and body to ensure that the body components are manufactured correctly to suit the predetermined scale length, string height and neck joint.

The range of tools used to construct the components might include the following: plane, saw, coping saw, chisel, gauge, marking gauge, spoke shave, rasp, file, cabinet scraper and dividers. A woodworking bench with vice is required.

Ideally, candidates should have woodworking skills prior to beginning the Unit. The ability to plane a surface flat is necessary and should be further developed during the Unit. Workshop health and safety rules must be adhered to.

Guidance on learning and teaching approaches for this Unit

Though this is primarily a workshop based Unit, the initial research in Outcome 1 will require access to a computer. There should be tutor input to discuss appropriate methods of research and the identification of research criteria and how this will be recorded. There could also be a demonstration showing how to make a simple working drawing of body components, where candidates elect to draw their own plan.

Tutor input is required on the different types of instrument body used in instrument making and the various methods of construction and can be given prior to embarking on the research and practical work. This might include a discussion on types of rosette, soundhole shapes and positioning, body shapes and sizes, inlay work, bracing patterns, types of linings and options and methods of applying purfling and binding.

A clear understanding of the mechanics of a neck and its relationship to the strings, fingerboard and body is required in order to build a body that functions correctly. Methods of interpreting written and diagrammatic information should be explained and demonstrated.

It will be useful to identify software that can be used to calculate scale lengths and string tensions. The internet can also be used to show examples of professional instruments and different design elements. There are also useful programmes available to help design rosettes.

Candidates could keep a photographic or written logbook/folio detailing the research and specifying the information to be used in the project. Topics to be recorded in the logbook may include research data, final specifications chosen for the body and a range of possible rosette/bracing pattern/soundhole options together with the final choice. Botanical names and densities of body timbers and identification of other materials that may be used for inlay work should be included.

The skills developed in the Unit will include research, hand to eye coordination, problem solving, the interpretation of both written and oral information and woodworking.

Visit to instrument museums would be very beneficial.

National Unit specification: support notes (cont)

Unit title: Stringed Instruments: Manufacture Instrument Body Components (SCQF level 6)

Guidance on approaches to assessment for this Unit

Written and/or oral evidence could be in the form of a logbook or folio which records the research and selection of information in Outcomes 1–3.

Evidence of practical work may be recorded on an observation checklist supported by product evidence as detailed in the Performance Criteria.

Product evidence entailing the manufacture of one instrument body can provide practical evidence for Outcome 4.

When taught as part of the National Certificate in Stringed Musical Instrument Making and Repair (SCQF level 6) there are opportunities for integration of delivery and assessment with the following Units:

- ◆ *Stringed Instruments: Manufacture Instrument Body Components* (SCQF level 6)
- ◆ *Stringed Instruments: Assembly of Instrument Body and Neck* (SCQF level 6)
- ◆ *Stringed Instruments: Instrument Inlay and Soundhole Cutting Techniques* (SCQF level 6)
- ◆ *Stringed Instruments: Design* (SCQF level 6)

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)

Unit title: Stringed Instruments: Manufacture Instrument Body Components (SCQF level 6)

Opportunities for developing Core Skills

In this Unit candidates will research a plan and manufacture a musical instrument body. Candidates will:

- ◆ carry out research
- ◆ select materials
- ◆ read and interpret diagrams
- ◆ read instruction material relating to the construction process
- ◆ measure, mark, lay out and shape
- ◆ select and use tools
- ◆ identify health and safety issues
- ◆ record the manufacturing process

This means that as candidates are doing this Unit they may develop aspects of the Core Skills of *Communication*, *Numeracy* and *Problem Solving*.

In addition, they may develop aspects of the Core Skill of *Information and Communication Technology (ICT)* where using the computers to research examples of instrument body components, design elements or make calculations.

This Unit has the Critical Thinking component of Problem Solving embedded in it. This means that when candidates achieve the Unit, their Core Skills profile will also be updated to show they have achieved Critical Thinking at SCQF level 5.

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

History of changes to Unit

Version	Description of change	Date
02	Core Skills Component Critical Thinking at SCQF level 5 embedded.	09/10/2012

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