



National Unit specification: general information

Unit title: Stringed Instruments: Manufacture of an Instrument Neck (SCQF level 6)

Unit code: H1YC 12

Superclass: LJ

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Summary

This Unit enables candidates to manufacture an instrument neck, ready for assembly to an instrument body. Candidates will choose the type of instrument neck to manufacture and investigate designs, specifications and plans relating to construction. From the information gathered candidates will choose and interpret a plan and identify materials for manufacturing, prior to making the neck.

Candidates will learn about the different types of neck and methods of neck construction commonly used in a range of stringed musical instrument making. The relationship between the neck and body is described and the essential elements that constitute a playable instrument are defined.

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

Outcomes

- 1 Investigate instrument neck designs.
- 2 Select a plan from which to construct an instrument neck.
- 3 Select and identify materials to construct an instrument neck.
- 4 Construct an instrument neck.

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 Hand Tool Skills* (SCQF level 5)
- ◆ *Stringed Instruments: Manufacture of an Instrument Neck* (SCQF level 5)

General information (cont)

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(SCQF level 6)

Credit points and level

2 National Unit credits at SCQF level 6: (12 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

Opportunities to develop aspects of Core Skills are highlighted in the support notes of this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

National Unit specification: statement of standards

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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 neck designs.

Performance Criteria

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

Outcome 2

Select a plan from which to construct an instrument neck.

Performance Criteria

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

Outcome 3

Select and identify materials to construct an instrument neck.

Performance Criteria

- (a) Identify a range of materials suitable for an instrument neck.
- (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 neck.

Performance Criteria

- (a) A neck blank is accurately squared.
- (b) The headstock or peg-head shape is accurately cut out.
- (c) Holes for the tuning system are accurately bored.
- (d) The heel is accurately cut and shaped.
- (e) The neck is contoured correctly.
- (f) Processes are performed using appropriate tools.
- (g) Health and safety requirements are adhered to.

National Unit specification: statement of standards (cont)

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Evidence Requirements for this Unit

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

Written and/or oral recorded evidence is required for Outcomes 1 and 3. Performance evidence is required for Outcome 2. A combination of product and performance evidence is required for Outcome 4.

Outcome 1

Written and/or oral evidence is required, gathered under open-book conditions. Candidates must initially identify the requirements for their investigation. This must include:

- ◆ The instrument neck they have chosen to investigate
- ◆ What information they require to build the instrument neck
- ◆ 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 neck which must be gathered from four different sources.

Outcome 2

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

Outcome 3

Candidates must provide a record of neck 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

A combination of product and performance evidence is required for Outcome 4.

Product evidence:

- ◆ The completion of an instrument neck ready for assembling to an instrument body. The position of the holes on the headstock/peghead must correspond to the machine heads or pegs that will be fitted. The heel joint must be compatible with the method of attachment to the instrument body.
- ◆ The neck must conform to the following criteria:
 - neck width must conform to plus or minus 2mm according to specifications on plan
 - neck depth must conform to plus or minus 2mm according to specifications on plan
 - the neck length must conform to the scale length on the plan.

National Unit specification: statement of standards (cont)

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Performance evidence is required which demonstrates that:

- ◆ candidates use the appropriate tools and machinery in the correct manner to suit each task
- ◆ candidates adheres 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

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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 80 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: CR17 Document and record craft work and work practice
- ◆ Craft: CR51 Maintain and repair craft work
- ◆ Craft: CR56 Make sure your own actions reduce risks to health and safety

This is an optional 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 is most effective when combined with the Unit *Stringed Instruments: Manufacture Instrument Body Components* (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 select a neck plan and the manner in which this information could be researched, gathered and recorded.

Candidates should investigate instrument designs, specifications and plans relating to their chosen instrument. They can then decide to use an existing plan they have identified through their investigation or to use the information gathered in the Unit *Stringed Instruments: Design Project* (SCQF level 6) to produce their own plan.

The information gathered could include the following:

- ◆ scale length
- ◆ nut width
- ◆ neck depth
- ◆ headstock designs
- ◆ headstock specifications
- ◆ tuner specifications
- ◆ truss rod types
- ◆ inlays
- ◆ neck/body joints
- ◆ timber
- ◆ plans

National Unit specification: support notes (cont)

Unit title: Stringed Instruments: Manufacture of an Instrument Neck (SCQF level 6)

To gain knowledge and understanding of the materials being used it will be useful to record the local and botanical names of timbers and the timber densities.

Methods of neck reinforcement will be explained and examples provided. The association between scale length, neck relief, nut width, string height and string compensation should be outlined, enabling the candidate to understand how a neck functions in relation to the strings and body.

The range of tools used to construct the neck 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 are also required.

Candidates should have woodworking skills prior to beginning the Unit as related in the recommended entry section.

Guidance on learning and teaching approaches for this Unit

There should be tutor input to discuss appropriate methods of investigation and the identification of research criteria and how this will be recorded.

Tutor input on the different types of neck used in instrument making and the various methods of construction can be given prior to embarking on the research and practical work.

This might include a discussion on the types of inlay work that could be used to embellish the neck/headstock/fingerboard/heel-cap.

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 neck 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 instrument necks and different design elements. Information regarding specifications for machine heads and instrument pegs is readily available as is information and examples relating to truss-rods and other forms of neck reinforcement.

Candidates could keep a folio detailing the research and specifying the information to be used in the project.

Topics to be recorded in the folio may include research data, final specifications chosen for the neck and a range of possible headstock/peghead options from which with the final choice is identified.

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.

National Unit specification: support notes (cont)

Unit title: Stringed Instruments: Manufacture of an Instrument Neck (SCQF level 6)

Guidance on approaches to assessment for this Unit

Written and/or oral evidence for Outcome 1 and 3 could be the form of a folio which records the investigation of designs, specifications and plans and the selection of materials.

Performance evidence for Outcome 2 could be recorded on an observation checklist.

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 neck 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 of an Instrument Neck
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Opportunities for developing Core Skills

In this Unit candidates will research a plan and manufacture one musical instrument neck. 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 ICT research examples of instrument necks and design elements or use appropriate software to make calculations.

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

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