



## Higher National Unit Specification

### General information for centres

**Unit title:** Architectural Conservation: Cost Studies

**Unit code:** F4Y8 35

**Unit purpose:** This Unit is designed to give candidates an understanding of the financial process for the development and change of use of traditional buildings from an estate management viewpoint, including finance, valuation, cost planning, life cycle costing, cost control, sustainability, and energy audit. It is primarily intended for candidates who expect to work in the building surveying and building control areas of the construction industry.

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

- 1 Describe methods of estimating cost for conservation work to an existing traditional building.
- 2 Cost a repair job to a traditional building.
- 3 Appraise how the control and adjustment of the original cost is carried out during the contract period.

**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:** It would be beneficial if candidates had a basic knowledge and understanding of the construction industry. Knowledge of pricing construction work would be an advantage although not essential. This knowledge and understanding could be demonstrated by possession of an appropriate Higher or HN Unit.

**Core Skills:** There are opportunities to develop the Core Skills of *Communication*, *Numeracy* (Using Number), *Information Technology* and *Problem Solving* (Critical Thinking) all 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 another 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:** This Unit could be assessed on an individual Outcome basis, combination of Outcomes or by a single holistic assessment combining all Outcomes such as a single case study. It is recommended that a single holistic assessment covering all Outcomes would not exceed 3 hours in duration.

## Higher National Unit specification: statement of standards

**Unit title:** Architectural Conservation: Cost Studies

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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 methods of estimating cost for conservation work to an existing traditional building

#### Knowledge and/or Skills

- ◆ Methods of estimating cost for design stage
- ◆ Methods of cost planning
- ◆ Life cycle costing techniques
- ◆ The value of life cycle costing in conservation
  - Energy used in manufacture of materials
  - Sustainability of materials
  - Cost in use of materials
  - Lifespan of materials
  - Quality issues

#### Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can describe methods of estimating cost during the design stage of conservation work to an existing traditional building. Candidates should be able to:

- ◆ describe three methods of cost planning used during the design stages of conservation work to an existing traditional building
- ◆ describe the life cycle costing techniques used during the design of conservation work to an existing traditional building
- ◆ describe the value of life cycle costing as used in conservation with particular regard to:
  - energy used in manufacture of materials
  - sustainability of materials
  - cost in use of materials
  - lifespan of materials
  - quality issues

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

**Unit title:** Architectural Conservation: Cost Studies

### **Assessment Guidelines**

The assessment of this Outcome could be by extended response questions. Alternatively, the assessment could be combined with Outcomes 2 and 3 in a single holistic assessment in the form of a case study.

### **Outcome 2**

Cost a repair job to a traditional building

#### **Knowledge and/or Skills**

- ◆ Repair and restoration
- ◆ Calculations:
  - Labour
  - Materials
  - Tasks

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by costing a repair job to a traditional building, showing that they can:

- ◆ describe the key aspects of the tasks required for the repair of a traditional building
- ◆ calculate:
  - the hours to do each task
  - the cost of materials needed for each task
  - the total cost of each task

#### **Assessment Guidelines**

The assessment of this Outcome could be combined with Outcomes 1 and 3 as part of a single assessment for the Unit in the form of a case study. Pro-formas could be used to record costs of hours, materials, etc. The use of spreadsheets or industry specific software could also be used to calculate and record costs.

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

**Unit title:** Architectural Conservation: Cost Studies

### **Outcome 3**

Appraise how the control and adjustment of the original cost is carried out during the contract period

#### **Knowledge and/or Skills**

- ◆ Cost control techniques
- ◆ Cost implications of:
  - Alternative construction techniques
  - Changes in specification

#### **Evidence Requirements**

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

- ◆ appraise cost control techniques for a given situation
- ◆ appraise cost implications for alternative construction techniques
- ◆ appraise cost implications for changes in specification

#### **Assessment Guidelines**

This Outcome could be assessed by extended response questions or by a case study. The assessment of this Outcome can be combined with Outcomes 1 and 2 and could be assessed by a case study.

## Administrative Information

**Unit code:** F4Y8 35  
**Unit title:** Architectural Conservation: Cost Studies  
**Superclass category:** TF  
**Original date of publication:** August 2008  
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### History of changes:

Version	Description of change	Date

**Source:** SQA

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## Higher National Unit specification: support notes

### Unit title: Architectural Conservation: Cost Studies

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 is primarily intended for candidates who expect to work in the building surveying and building control areas of the construction industry. It has been designed to enable candidates to develop knowledge, understanding and skills in the following areas:

- ◆ methods of estimating cost for conservation work to an existing traditional building
- ◆ costing a repair job to a traditional building
- ◆ control and adjustment of original cost carried out during the contract period

This Unit is at SCQF level 8 and is a mandatory Unit within the HNC and HND Architectural Conservation frameworks. It is also suitable for delivery as a freestanding Unit.

Throughout this Unit tutors could encourage a conservative approach of minimal intervention, repair and disturbance to the fabric and finishes of a traditional building in line with the underlying principles and philosophy of architectural conservation.

This means that no building or part of it should be repaired before such repair is strictly necessary.

Consideration could be given to the presumption against restoration, if this is possible, sustaining sources of materials and workmanship, matching (or not) with age. This philosophy is covered in the Unit *The Principles of Architectural Conservation*.

The following information gives further clarification regarding the content of the Unit.

This Unit will involve sustainability, energy and audit of the materials and processes used in conservation of traditional buildings.

Candidates could discuss the big question of 'sustainable development'. It could be argued that by producing the skills that could rehabilitate or refurbish a sound building from the recent past it can prolong its life contributing to saving of energy, money and materials. In addition to saving energy it will reduce the production of carbon dioxide and greenhouse gas effects.

The Unit could be covered from an estate management viewpoint specifically with regard to existing traditional buildings and conservation.

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

**Unit title:** Architectural Conservation: Cost Studies

The tutor could use the guidelines given in BS 7913 *Guide to the Principles of the Conservation of Historic Buildings 1998*, or current British Standard.

### Definitions

**Conservation:** Action to secure the survival or preservation of buildings, cultural artefacts, natural resources, energy or any other thing of acknowledged value for the future. NOTE: Where buildings or artefacts are involved, such actions should avoid significant loss of authenticity or essential qualities.

**Repair:** Work beyond the scope of regular maintenance to remedy defects, significant decay or damage caused deliberately or by accident, neglect, normal weathering or wear and tear, the object of which is to return the building or artefact to good order, without alteration or restoration. NOTE: Most repair work should be anticipated and planned but occasionally it can be required in response to a specific event, such as a storm or accident.

**Restoration:** Alteration of a building, part of a building or artefact which has decayed, been lost or damaged or is thought to have been inappropriately repaired or altered in the past, the objective of which is to make it conform again to its design or appearance at a previous date. NOTE: The accuracy of any restoration depends on the extent to which the original design or appearance at a previous date is known, or can be established by research.

(Definitions from BS 7913 *Guide to the Principles of the Conservation of Historic Buildings 1998*)

### Outcome 1

**Describe methods of estimating cost for conservation work to an existing traditional building.**

This Outcome will enable candidates to develop an understanding of:

- ◆ the financial process for the development and change of use of traditional buildings from an estate management viewpoint, including:
- ◆ estimating costs by various techniques: costs/m<sup>2</sup>, costs per Unit of accommodation, approximate quantities
- ◆ finance
- ◆ valuation
- ◆ cost planning
- ◆ life cycle costing
- ◆ cost control
- ◆ sustainability
- ◆ energy audit

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

**Unit title:** Architectural Conservation: Cost Studies

### **Outcome 2**

**Cost a repair job to a traditional building.**

This Outcome looks at:

- ◆ life cycle costing in terms of conservation ie overhaul what is there rather than replace it
- ◆ plastic repairs to stones — in life cycle terms rather than in leaving the stone as pure stone
- ◆ discussion around the replacement of 100-year-old wooden windows with plastic double glazed windows with a 10-year life
- ◆ energy questions in terms of using natural stones or using energy to produce lightweight blocks
- ◆ life cycle projects that could build up a database with research potential

Corresponding to the Outcome:

Candidates may select a traditional building for which it is suitable to give guidance on management, use, maintenance and upgrading.

Tutors could emphasise total cost ie VAT, professional fees, statutory fees, inflation, and discounting future maintenance costs to present day.

Sources of funding and revenues could be outlined.

### **Outcome 3**

**Describe how the control and adjustment of the original cost is carried out during the contract period.**

Tutors could emphasise total cost ie VAT, professional fees, statutory fees, inflation, contingencies and discounting future costs to present day.

Life cycle costing may be described in terms of conservation ie overhaul what is there rather than replace it.

Sources of funding and revenues could be outlined.

Changing implications of VAT on works to and fees associated with Listed Buildings eg eligible repairs to works of a charitable status or place of worship.

Cost control to regulate, monitor construction costs throughout design phase and construction phase.

Needs and aims of cost control.

Cost planning and spread of costs across design.



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

### Unit title: Architectural Conservation: Cost Studies

Budgetary control throughout construction phase:

- ◆ cost reporting
- ◆ pricing variations and controlling expenditure on variations
- ◆ cost checking prices of alternative designs to reduce expenditure
- ◆ claims
- ◆ provisional sums
- ◆ inflation
- ◆ Cash Flow forecasting

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

This Unit is likely to form part of a Group Award designed to provide candidates with the technical and professional knowledge and skills for employment within an Architectural Conservation environment. Where this Unit is incorporated into other Group Awards it is recommended that it be delivered in the context of the specific occupational area(s) that the award is designed to cover.

Throughout the Unit emphasis will be placed, where appropriate, on the application of health and safety and sustainability. Safe working practices may be looked at in accordance with current safety codes of practice and regulations. Sustainability could include reference to criteria affecting sustainability, impact of not implementing sustainability on the environment and the legislation promoting sustainability.

Each Outcome may be assessed individually. Alternatively, the Unit may be assessed by a single instrument of assessment in the form of a case study. It is recommended that a single holistic assessment would not exceed 3 hours in duration.

In Outcome 2 candidates could be issued with pro-formas to record costs of hours, materials, etc. The use of spreadsheets or industry specific software could also be used to calculate and record costs.

#### *Opportunities for developing Core Skills*

There are opportunities to develop aspects the following Core Skills.

*Communication* at SCQF level 6 — candidates will be required to read materials relating to the costing of conservation work. If candidates produce written reports or essays, this will provide opportunities to develop Written Communication. Lecturers might use class discussions to deliver parts of the Unit and this would provide opportunities to develop Oral Communication.

*Numeracy* — candidates will be required to carry out costing of conservation work which will provide opportunities to develop the Core Skill component of Using Number.

*Information Technology* at SCQF level 5 — this Unit offers candidates the opportunity to research, source information, and produce evidence using ICT.

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

**Unit title:** Architectural Conservation: Cost Studies

*Problem Solving* — candidates will be required to carry out costing of conservation work which will provide opportunities to develop the Core Skill component of Critical Thinking.

The following grid provides a general guide to opportunities for the development of Core Skills in this Unit. Opportunities for the development of Core Skills at the output level are more fully identified in the Core Skills Sign Posting Grid.

Core Skill		Outcome 1	Outcome 2	Outcome 3
<b>1 Communication</b>				
Written Communication	(Reading) (Writing)	SCQF level 5		SCQF level 5
Oral Communication				
<b>2 Numeracy</b>				
Using Number			SCQF level 5	
Using Graphical Information				
<b>3 Information Technology</b>				
Using Information Technology		SCQF level 5	SCQF level 5	SCQF level 5
<b>4 Problem Solving</b>				
Critical Thinking			SCQF level 5	
Planning and Organising				
Reviewing and Evaluating				
<b>5 Working with Others</b>				
Working with Others				

### Open learning

This Unit could be delivered by distance learning, which may incorporate some degree of on-line support. However, with regard to assessment, planning would be required by the centre concerned to ensure the sufficiency and authenticity of candidate evidence.

### 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. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* ([www.sqa.org.uk](http://www.sqa.org.uk)).

## General information for candidates

### Unit title: Architectural Conservation: Cost Studies

This Unit is designed to prepare you for a career in the building surveying or building control area of the construction industry where conserving buildings correctly and where possible, within budget, is important. This Unit is suited to building surveyors and building control officers, architects and client advisers, who are involved in building conservation projects from their inception through to completion on site and long term use.

In Outcome 1 you will look at the financial process for the development, change of use of traditional buildings from an estate management viewpoint, including:

- ◆ estimating costs by various techniques: costs/m<sup>2</sup>, costs per Unit of accommodation, approximate quantities
- ◆ finance, valuation, cost planning, life cycle costing, cost control, sustainability energy audit all underpinned by BS 7913 Guide to the principles of the conservation of historic building 1998 or current British Standard

In Outcome 2 you will accurately cost a repair and restoration job to a traditional building including acknowledgement of the implications of VAT, professional fees, statutory fees, inflation and discounting future maintenance costs to present day.

In Outcome 3 you will describe methods of cost control to regulate and monitor construction costs throughout design phase and construction phase of a conservation project including management of variations, cost checking of alternative designs, claims, provisional sums and inflation.

The Unit may be assessed on an individual Outcome basis, combinations of Outcomes or by a single holistic assessment combining all Outcomes such as a single case study.

There may be opportunities for you to develop the Core Skills of *Communication*, *Numeracy* (Using Number), *Information Technology* and *Problem Solving* (Critical Thinking) all at SCQF level 5 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.