

SQA Advanced Unit specification

General information for centres

Unit title: Building Inspection

Unit code: HT16 47

Unit purpose: This Unit seeks to provide the candidate with knowledge of the process of building inspection for compliance with contract requirements, statutory and professional obligations during the construction project.

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

- 1 Identify sources of information relevant to the assessment of materials and quality of work on a construction project.
- 2 Explain the roles and responsibilities of personnel involved in quality control, inspection and supervision of building works.
- 3 Explain how the quality of workmanship and materials are monitored on a construction site.

Credit points and level: 1 SQA Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*)

**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 National 1 to Doctorates.*

Recommended prior knowledge and skills: It would be an advantage for candidates to have a basic knowledge of construction. Possession of basic knowledge and understanding may be evidenced by possession of a Higher in Building Construction or Building and Architectural Technology.

Core Skills: There are opportunities to develop the Core Skill(s) of Communication, IT and Problem Solving 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: It is possible to assess candidates either on an individual Outcome basis, combinations of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled conditions.

The assessment for each Outcome will be composed of a suitable balance of short answer, restricted response structured questions. Assessment should be conducted under controlled, supervised conditions. It should be noted that the candidates must achieve all minimum evidence specified for each Outcome in order to pass the Unit.

An exemplar instrument of assessment and marking guidelines has been produced to provide examples of the type of evidence required to demonstrate achievement of the aims of the Unit and to indicate the national standard of achievement at SCQF level 7.

Higher National Unit specification: statement of standards

Unit title: Building Inspection

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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.

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

Outcome 1

Identify sources of information relevant to the assessment of materials and quality of work on a construction project.

Knowledge and/or skills

- ◆ major information sources
- ◆ function of the various organisations who produce the major sources of information used to assess material and workmanship quality
- ◆ cross-checking of information on technical information systems
- ◆ essential aspects required to make a quality assessment

Evidence Requirements

In any assessment of this Outcome **all** knowledge and/or skills items should be included. Candidates must provide a satisfactory response to all items.

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

- ◆ list the major sources of information relevant to the assessment of materials and quality of work on a construction project
- ◆ explain the function of the various organisations who produce the major sources of information used to assess material and workmanship quality in the construction industry
- ◆ use technical information systems such as a computer database to retrieve and cross-check information, to determine if a material and/or workmanship is of an acceptable quality
- ◆ assess if a specified material or construction method is acceptable for a specific task

Assessment guidelines

It is recommended that this assessment is a maximum of 3 hours' duration and is carried out under controlled supervised conditions. Candidates should have access to a computer database for information retrieval relating materials and quality of work.

Questions used to elicit candidate evidence should take the form of an appropriate balance of short answer, restricted response and structured questions.

Outcome 2

Explain the roles and responsibilities of personnel involved in quality control, inspection and supervision of building works.

Knowledge and/or skills

- ◆ quality and checks made by the relevant personnel
- ◆ difference between inspection and supervision
- ◆ role of relevant personnel involved with quality control, inspection and supervision of building works
- ◆ actions available following the occurrence of defective and non-compliance items

Evidence Requirements

Evidence for the knowledge and/ or skills in this outcome will be provided on a sample basis. The evidence may be presented in response to specific questions. Each candidate will need to demonstrate that she/he can answer correctly questions based on a sample of items shown above.

In any of the assessments of this Outcome, **three** of the **four** knowledge and/or skills should be sampled. In order to ensure that candidates will not be able to foresee what items they will be questioned on, a different sample of the three out of the four knowledge and/or skills in this Outcome are assessed. Candidates must provide a satisfactory response to all three items being assessed.

Candidates will require evidence to demonstrate that they can:

- ◆ identify and explain the roles and responsibilities of personnel involved in quality control, inspection and supervision of building works

Assessment guidelines

It is recommended that assessment of this Outcome should be a single assessment question paper. The assessment event should last 1½ hours and be carried out under supervised controlled conditions. Assessment should be conducted under closed-book conditions and as such candidates should not be allowed to bring any text books, handouts or notes to the assessment.

Outcome 3

Explain how the quality of workmanship and materials are monitored on a construction site

Knowledge and/or skills

- ◆ preparation of checklists for monitoring materials and quality of work
- ◆ procedures for confirming that the storage of materials on site are in accordance with specified requirements
- ◆ the building inspector's role in managing the environmental impact of building material use and wastage
- ◆ identification of defective material and/or workmanship
- ◆ reporting of feedback to the design team on failures of materials/workmanship
- ◆ outlining remediation procedures once defective material/workmanship has been identified

Evidence Requirements

Evidence for the knowledge and/ or skills in this Outcome will be provided on a sample basis. The evidence may be presented in response to specific questions. Each candidate will need to demonstrate that she/he can answer correctly questions based on a sample of items shown above. In any of the assessments of this Outcome **four** of the **six** knowledge and/or skills should be sampled.

In order to ensure that the candidates will not be able to foresee what items they will be questioned on, a different sample of the four out of the six knowledge and/or skills in this Outcome are assessed. Candidates must provide a satisfactory response to all four items.

Candidates will require evidence to demonstrate that they can:

- ◆ identify and explain procedures for monitoring the quality of workmanship and materials on a construction site

Assessment guidelines

It is recommended that assessment of this Outcome should be a single assessment question paper. The assessment event should last 1½ hours and be carried out under supervised controlled closed-book conditions.

Questions used to elicit candidate evidence should take the form of an appropriate balance of short answer, restricted response and structured questions.

Administrative information

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Superclass category:	TF
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FURTHER INFORMATION: Call SQA's Customer Contact Centre on 44 (0) 141 500 5030 or 0345 279 1000. Alternatively, complete our Centre Feedback Form.

SQA Advanced Unit specification: support notes

Unit title: Building Inspection

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

The content of this Unit will raise candidates' awareness of the critical role of information within today's construction industry and how information databases are utilised to ensure construction work is carried out correctly. The Unit will raise awareness of the roles of individuals who oversee quality control within the construction industry and actions they take in the inspection and supervision process, to achieve quality control. The Unit will reference regulatory and legal requirements that are to be adhered to in the construction process.

Outcome 1 (6 hours)

- ◆ Major information sources (British Standards, British Board Agrément Certificate, British Research Establishment Publications, Building Regulation Guidance documents, Trade Association Publications, Professional Bodies, Manufacturers' product information, Eurocodes).
- ◆ Technical Information databases Computer databases [IHS Technical Indexes, Barbour Index, RIBA Office Library].
- ◆ Critical assessment of a material and/or workmanship based on information retrieved from product literature recommendations and compliance with statutory requirements. For example a manufacturer's cavity wall insulation literature may specify that the clear cavity width is reduced below statutory minimum requirements.

Outcome 2 (14 hours)

- ◆ The purpose of quality control in the construction process.
- ◆ Quality control checks (New Manufactures, BS, Samples, Country of Origin, Testing, Tolerances, Contractor's Quality Assurance (BSI QA, Lloyds Register, SGS Yarsley).
- ◆ Quality Assured Building Products (BBA, BSI Kitemark, and CARES), Quality Plan or inspection service).
- ◆ The difference between inspection and supervision (periodic and continuous monitoring).
- ◆ Personnel involved in quality control, inspection and supervision process (Clerk of Works, Architect, Building Control [Standards] Surveyor, and Site Manager).
- ◆ Actions available to relevant personnel on identification of a defect such as Directions, Architects Instruction, Statutory Notices, Product liability, Arbitration, Adjudication.

Outcome 3 (14 hours)

- ◆ Checklists for materials handling and storage (Masonry, Cement and Plaster, Sands and Aggregates, Sheet Materials, Paints and Solvents, Components). Emphasising that correct storage will limit wastage and reduce environmental impact.
- ◆ Checklist for workmanship for Contractual and Statutory requirements (BS 8000). Workmanship areas (Groundwork, Concrete, Masonry, Structural Carcassing, Surface Finishes (Paint)).
- ◆ Information sources to identify correct material storage (Specification, British Standard, Manufacturer's recommendations, Trade Association recommendations, Health and Safety (COSHH)).
- ◆ Identifying materials are sourced from sustainable, managed or renewable sources (checking delivery notes, certificates or markings).
- ◆ Waste segregation (eg use of different skips for collection of concrete/masonry, timber, metals, etc, which will be sent for recycling).
- ◆ Identification of defective material (Specification, BS, Statutory Requirements, Offsite Inspection, Material Testing (slump test, cube test, pull-out test, moisture content test, water absorption test, dimensional tolerance test, paint film test).
- ◆ Reporting feedback for defective materials/workmanship (Site Meetings, Defect and Failure Reports).
- ◆ Building Inspectors' role in the remediation process for defective materials/workmanship, ie recording progress, informing design team, overseeing the remedial process.

Recommended reference source for this subject is — The Institute of Clerk of Works (ICW) *Guide to Site Inspection for the Construction Team*.

Unit assessment (6 hours total)

This takes the form of three different assessment papers, one covering the content of Outcome 1 and lasting approximately 3 hours, one covering the content of Outcome 2 and lasting one and half hours and one covering the content of Outcome 3 and lasting one and half hours.

In Outcome 1 a supervised session is required in a computer laboratory with access to a construction database. Candidates will require time to familiarise themselves with the database and to gather the information required. The time allocated for this task is a guide and may vary from time to time.

Guidance on the delivery and assessment of this Unit

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.

Details on approaches to assessment are given under Evidence Requirements and Assessment guidelines under each Outcome in the SQA Advanced Unit specification: statement of standards section. It is recommended that these sections be read carefully before proceeding with assessment of candidates.

Opportunities for developing Core Skills

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 Signposting Guide.

Core Skill	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
1 Communication					
Reading					
Writing		■	■		
Oral					
2 Numeracy					
Using Number					
Using Graphical Information					
3 IT					
Using Information Technology	■				
4 Problem Solving					
Critical Thinking			■		
Planning and Organising					
Reviewing and Evaluating					
5 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. Arrangement would be required to be put in place to ensure that the assessment, which is required to be at a single event, was conducted under controlled, supervised conditions.

For information on normal open learning arrangements, please refer to the SQA guide *Assessment and Quality Assurance of Open and Distance Learning* (SQA 2000).

Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

General information for candidates

Unit title: Building Inspection

This Unit is designed to involve you in practical exercises and is aimed at those who may be or will be involved in an inspectorial role, eg Clerk of Works, Building Control (Standards) Officers, NHBC Inspectors. The Unit will also be appropriate for those who intend progress to a higher-level programme, such as a degree in Building Surveying.

In Outcome 1 you will look at the major sources of information in the construction industry and the bodies who are authors of these information sources. You will learn to use a computerised database to extract information to determine if a material and/or workmanship is appropriate for a given situation.

In Outcome 2 you will learn about the roles of personnel who oversee quality control within the construction industry and actions they take in the inspection and supervision process to achieve quality control.

In Outcome 3 you will learn of the procedures that are taken to monitor materials and workmanship to ensure they are of an adequate quality for a construction project. You will gain awareness of the regulatory and legal requirements that are to be adhered to in the construction process.