

National Unit Specification: general information

UNIT Construction Careers – An Introduction (Intermediate 1)

NUMBER D9F2 10

COURSE

SUMMARY

This unit is suitable for candidates with no prior knowledge of the construction industry. The aim of the unit is to introduce candidates to the range of career opportunities the construction industry offers at Operative, Craft, Technician and Professional levels.

The unit is designed to stimulate an interest in the construction industry and will provide the basis for further studies.

OUTCOMES

- 1 Describe the range of work carried out by the construction industry.
- 2 Identify the work of the main groups of workers and professions in the Construction Industry.
- 3 List the sequence of main operations in the planning and construction of a bungalow.
- 4 Describe a visit to a construction site, professional office or college construction department.

RECOMMENDED ENTRY

Candidates undertaking this unit do not require any prior knowledge of the construction industry.

CREDIT VALUE

1 Credit at Intermediate 1.

Administrative Information

Superclass: TE

Publication date: August 2002

Source: Scottish Qualifications Authority 2001

Version: 01

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National Unit Specification: general information (cont)

CORE SKILLS

Information on the automatic certification of any core skills in this unit is published in *Automatic Certification of Core Skills in National Qualifications* (SQA, 1999).

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 the Scottish Qualifications Authority.

OUTCOME 1

Describe the range of work carried out by the construction industry.

Performance criteria

- a) The building sector is correctly described
- b) The civil engineering sector is correctly described
- c) The maintenance repair and renovation sectors are correctly described

Note on range for the outcome

Building sector: residential; educational; industrial; commercial.

Civil Engineering sector: roads; bridges; harbours; dams; airports.

Maintenance and Repair: routine maintenance; damage repair; renovation and refurbishment.

Evidence requirements

Please refer to *Evidence requirements for the unit* at the end of the Statement of Standards.

OUTCOME 2

Identify the work of the main groups of workers and professions in the Construction Industry.

Performance criteria

- a) Identify the main construction crafts
- b) List the main technician posts
- c) List the main construction professions

NOTE: To include entry to each area of work: apprenticeship, technician etc

Note on range for the outcome

Operatives: concrete labourer; drain layer; plant operator; general building labourer.

Trades: bricklayer; joiner; plasterer; painter and decorator; electrician; plumber; roof slater and tiler; plant mechanic; scaffolder.

Technicians: buyer; surveying technician; drawing technician; civil engineering technician.

Professions: architect; site manager; quantity surveyor; site safety officer; clerk of works; civil engineer.

National Unit Specification: statement of standards (cont)

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Evidence requirements

Please refer to *Evidence requirements for the unit* at the end of the Statement of Standards.

OUTCOME 3

List the sequence of main operations in the planning and construction of a bungalow.

Performance criteria

- a) Those involved in the planning process are identified correctly.
- b) The sequence of operations in the construction of a bungalow is described correctly.

Note on range for the outcome

Those involved in planning: architect; town planner; building control; planning control.

Sequence of operations: excavation of foundations; underbuilding; wall construction; roof construction; doors and windows; floors/internal partitions; plumbing; electrical; plastering; painting.

Evidence requirements

Please refer to *Evidence requirements for the unit* at the end of the Statement of Standards.

OUTCOME 4

Describe a visit to a construction site, professional office or college construction department.

Performance criteria

- a) The people working and current activity in the workplace are described accurately.
- b) The type of work being undertaken during the site/workplace visit is described accurately.

Note on range for the outcome

The range for this outcome is fully expressed within the performance criteria

Evidence requirements

Please refer to *Evidence requirements for the unit* at the end of the Statement of Standards.

National Unit Specification: statement of standards (cont)

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EVIDENCE REQUIREMENTS FOR THE UNIT

Outcome 1

For this outcome, written and/or oral evidence is required, indicating:

- i) knowledge of the range of work carried out in the building and civil engineering sectors;
- ii) understanding of the need to repair and maintain buildings during their lifetime;
- iii) understanding of the difference between repair, maintenance and renovation work.

All categories listed in the Guidance on content and context for this unit should be covered.

Evidence should cover four building and four civil engineering areas of work.

Assessment should be 'closed book'.

Outcome 2

For this outcome written and/or oral evidence is required, indicating:

- (i) knowledge of the range of jobs and career opportunities available in the construction industry.

All categories listed in the Guidance on content and context for this unit should be covered.

Evidence should cover craft, technician and professional careers opportunities.

Assessment should be 'closed book'.

Outcome 3

For this outcome written and/or oral evidence is required, indicating:

- (i) the candidate can produce a list of operations related to planning and building a bungalow.

All categories listed in the guidance on content and context for this unit should be covered.

Evidence should cover the main phases of planning and construction.

Assessment should be 'closed book'.

Outcome 4

For this outcome written and/or oral evidence is required, indicating:

- (i) the candidate can describe the activities being undertaken by construction personnel during a site, professional or college visit.

Categories will depend on the type of visit and the stage of construction. Evidence should include a minimum of six construction related activities.

Assessment should allow candidates the use of notes and photographs taken as part of the site visit.

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 40 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This unit is designed to introduce candidates to the range of career opportunities the construction industry offers and should be used to stimulate discussion and interest in the industry.

Corresponding to Outcomes 1-4

Outcome 1

This outcome should provide the candidate with a brief outline of the types of work undertaken in the building and civil engineering sectors. The explanation of building and civil engineering definitions should be kept simple and the main areas of work covered. The use of photographs, video tapes and articles about current projects or those projects which are easily recognised by candidates should be used to exemplify building and civil engineering sectors. Examples could be the local buildings, roads, millennium projects, Thames Barrier, Channel Tunnel, Clyde tunnel etc.

Candidates should be introduced to the need for maintenance, repair and renovation as a major element of the work of construction industry. Explanations should be illustrated by local examples where possible:

Maintenance	-	Ensuring heating, lights, windows, doors, etc work efficiently, decoration and cleaning to ensure buildings retain their appearance
Repair	-	Need to replace or repair broken or worn out elements – windows, floors, roofs, boilers etc.
Renovation	-	New uses for old and/or redundant buildings.

Outcome 2

This outcome should provide the candidate with an outline knowledge of the career opportunities in the construction industry. The list of jobs is not meant to be exhaustive but cover the broad areas of construction related activity.

Operatives	-	The need for skilled operatives such as drain layers, concrete labourers, plant operators.
Trades	-	Bricklayers, joiners, plasterers, painters, plumbers, electricians, roof slaters, plant mechanic, scaffolder.
Technicians	-	Building, civil engineering, estimating, buying, surveying.
Professions	-	Architects, civil engineers, building managers, surveyors, planners.

Outcome 3

This outcome should provide the candidate with basic knowledge of the process of constructing a domestic bungalow.

The process should be dealt with in two main areas – Planning and Construction.

National Unit Specification: support notes (cont)

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As with other outcomes the basic outline is required without becoming involved in the detail of construction processes.

Planning	-	Land acquisition Planning permission and building warrant Quantity surveying
Construction	-	Foundations Wall construction Floor construction Roof construction Doors and windows Internal work: Plumbing Electrical Plastering Painting

The content of the outcome should be limited to a basic understanding of the building elements and the knowledge of those who would be involved in the planning and construction processes.

Outcome 4

This outcome should enable the candidate to describe a local construction project, professional office or college construction department.

The aim of the outcome is to allow candidates to see construction workers in a working environment and provide a stimulus for further study of construction options.

The visit should be selected by the tutor to show the industry in a positive manner and allow candidates the opportunity to ask construction workers about their industry.

The feedback from this session is not required as a formal report but as a positive experience showing that candidates have understood what they have seen.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

When commencing this unit candidates will have a limited knowledge of the construction industry. Their knowledge may be from family involvement or more likely exposure to construction sites near their homes or schools.

Candidates may not have considered construction as a career choice and it is important that the unit is delivered in a way which does not perpetuate the prejudices of many non-construction related professionals.

The careful selection of appropriate site visits possibly in conjunction with College construction staff, CITB advisers and/or CITB Curriculum Centres is advised.

The unit should be introduced by a site visit with the use of video tapes, photographs and expert speakers to give a realistic view of the industry.

National Unit Specification: support notes (cont)

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There will be a need to provide some limited Health and Safety information prior to a site visit and most sites will require suitable footwear, hard hats and high visibility waistcoats for visitors, Colleges and Curriculum Centres will be able to supply the information and equipment required.

Written classroom work can be introduced using video, photographs or the internet with writing kept to a minimum through the use of a series of worksheets dealing with the content of outcomes 1-3.

Visiting speakers and literature from CITB and professional organisations will provide the main input related to the industry, trades, technicians and professions.

Delivery of this unit should stress the challenge and rewards available to construction workers at all levels.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Examples of suitable instruments of assessment are provided below.

Outcome 1 (Closed Book)

This outcome could be assessed using a question paper consisting of three restricted response questions and a matching exercise grid. Restricted response questions related to descriptions of building, civil engineering and maintenance and repair.

For example:

The building sector of the construction industry can be described as

In order to ensure coverage of the range a second exercise comprising a list of construction examples with candidates indicating the correct sector, eg

Construction Work	Sector Response
House	<i>B</i>
Road	<i>B</i>
Broken Window	<i>R & M</i>

Student responses in italics.

Outcome 2 (Closed Book)

Matching Exercise

The assessment for this outcome could comprise a list of job titles with the candidate selecting the group of workers or job description applicable.

National Unit Specification: support notes (cont)

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eg

Job Description	Operative, Trade, Technician or Profession
Bricklayer Concretor Architect CAD Operator	<i>Trade</i> <i>Operative</i> <i>Profession</i> <i>Technician</i>

Student responses in italics.

Some areas which may be confusing to candidates such as surveying technicians could be dealt with supplementary questions such as:

A surveying technician would be involved in

- a buying materials
- b supervising drawings in an office
- c setting out on site

Outcome 3 (Closed Book)

This outcome could be assessed using a list of planning and construction operations and requiring candidates to provide a suitable sequence for the operations listed.

Outcome 4 (Site Visit photographs and notes available)

This outcome could be assessed by asking the candidate to list the activities observed during the site visit and name the trade or professions likely to be involved. The list generated by candidates could be checked with a mater list generated by staff during the visit.

Where the visit is to be multi-activity area centres may wish to limit the number of activities to a maximum of six.

SPECIAL NEEDS

This unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering special alternative outcomes for units. For information on these, please refer to the SQA document *Guidance on Special Assessment and Certification Arrangements for Candidates with Special Needs/Candidates whose First Language is not English* (SQA, 1998).