

SAMPLE ASSIGNMENT BRIEF

UNIT 7 - MODERN METHODS OF CONSTRUCTION



Construction and the Built Environment Level 1 Unit 7 Modern methods of construction (CBE1U7)

Sample Assignment Brief (Approximately eight hours under controlled conditions)

Evidence requirements

You must produce evidence of achievement of the assessment criteria. Upon completion of this unit you should:

- 1 know about traditional methods of construction
- 2 know about modern methods of construction and the materials used
- 3 understand the differences between traditional methods and modern methods of construction, and the practical implications of these differences.

In order to attain a high mark in this unit, you must address all of the above. A table showing how the Assessment Criteria topics are weighted should be shown to learners in order that they understand how the final mark is determined.

You are required to complete three assessed tasks to achieve the assessment criteria which are set out in the marking grid for the unit.

Scenario

A large national developer has purchased a plot of land near to a primary and secondary school. Close to the development site are: residential housing, a large public park and sheltered housing for the elderly.

The area is served well with frequent public transport to and from the city centre. The developer is going to erect 155 dwellings; these will consist of detached, semi detached, town houses, apartment block and a small number of bungalows. Services to the site are in place (water, electricity, gas and drainage) and work has been completed to form an access road to and from the construction site. The proposed development site was previously home to an old factory (now demolished) and there are plans to build a small number of retail units and a pub/restaurant in the first phase of this project.

The development site has a number of trees with Tree Protection Orders (TPOs) on them.

These orders make it an offence to remove, prune or damage protected trees even if they are on private land. If you want to carry out work on a protected tree, you will need permission from the local authority.

The second phase is to convert a former local authority owned residential home into luxury apartments.

The residential home is a listed building and therefore any work that is done (completed) on this building is subject to strict conditions.

Listed building consent is required for any work which affects the special character or interest of a listed building so any work proposed must be carefully considered in the context of the building and of its history.

The third phase of this contract is to renovate the local housing stock. Part of the successful bid for this contract is to employ and train some of the local residents, source locally produced materials and resources, increase use of renewable materials and improve waste management techniques. The remodernisation programme will include some of the following: new energy saving features, improved security gates, lighting and fences.

Task 1

Traditional methods of construction

You can show this evidence by completing the following:

From the scenario on pages 1 and 2 identify and describe traditional construction methods and their uses. For example, will the foundation type used for a bungalow be the same type used for the apartment block? What other foundation types are available?

Some traditional construction methods may include some of the following:

- brick and block cavity wall construction
- half brick wide walls and one brick wide walls
- use of timber framed structures
- Identify a range of traditional construction methods and describe them.

Task 2

Modern methods of construction

You can show this evidence by completing the following:

Identify and describe basic features you would find within the buildings that would use modern construction materials and methods. For example, pre-fabricated doors manufactured off-site.

Some modern construction materials and methods may include:

- use of lightweight blocks,
- plasterboard dry lining,
- moulded skirting and coving.

Task 3

Differences between traditional methods and modern methods of construction

You can show this evidence by completing the following:

Consider you need to build a retail unit.

Is it quicker to build it using traditional methods or from modern possibly pre-fabricated materials assembled off-site?

What else will effect the choice of construction technique?

Will the weather, cost, speed of building make a difference to which decision is taken in terms of methods of construction used?

Weighting of assessment criteria topics

Assessment criteria topic	Weighting	Marks
1 Traditional methods of construction	25%	12
2 Modern methods of construction	25%	12
3 a Differences between traditional and modern methods of construction b Practical implications of these differences	50%	12 + 12
Total	100%	48

Assessment grid

Assessment criteria topic	Band 1	Band 2	Band 3
	The learner has:		
1 Traditional methods of construction	<p>0 – 4 marks</p> <p>Demonstrated a basic understanding of traditional methods of construction by correctly identifying a limited number of different methods and briefly describing such methods and the use to which they are put.</p> <p>Related the above work to given examples of construction projects in a superficial but generally accurate fashion.</p>	<p>5 – 8 marks</p> <p>Demonstrated a partial understanding of traditional methods of construction by correctly identifying a wide range of different methods and clearly describing such methods and the use to which they are put.</p> <p>Related the above work to given examples of construction projects in a clear and accurate fashion.</p>	<p>9 – 12 marks</p> <p>Demonstrated an in-depth understanding of traditional methods of construction by correctly identifying a comprehensive range of different methods, and clearly and precisely describing such methods and the use to which they are put.</p> <p>Related the above work to given examples of construction projects in a thorough and detailed fashion.</p>
2 Modern methods of construction	<p>0 – 4 marks</p> <p>Demonstrated a basic understanding of modern methods of construction by correctly identifying a limited number of different methods, briefly describing such methods and the use to which they are put.</p> <p>Related the above work to given examples of construction projects in a superficial but generally accurate fashion.</p>	<p>5 – 8 marks</p> <p>Demonstrated a partial understanding of modern methods of construction by correctly identifying a wide range of different methods, clearly describing such methods and the use to which they are put.</p> <p>Related the above work to given examples of construction projects in a clear and accurate fashion.</p>	<p>9 – 12 marks</p> <p>Demonstrated an in-depth understanding of modern methods of construction by correctly identifying a comprehensive range of different methods, clearly and precisely describing such methods and the use to which they are put.</p> <p>Related the above work to given examples of construction projects in a thorough and detailed fashion.</p>
3a: Differences between traditional and modern methods of construction	<p>0 – 4 marks</p> <p>Identified a limited range of the differences and provided a brief and basic description of the differences.</p>	<p>5 – 8 marks</p> <p>Identified a wide range of the differences and provided a clear and accurate description of the differences.</p>	<p>9 – 12 marks</p> <p>Identified a comprehensive range of the differences and provided a thorough and detailed description of the differences.</p>
3b: Practical implications of these differences	<p>0 – 4 marks</p> <p>Identified and briefly described a limited range of the practical implications of such differences in terms of either time or money.</p>	<p>5 – 8 marks</p> <p>Identified and briefly described a wide range of the practical implications of such differences in terms of both time and money.</p>	<p>9 – 12 marks</p> <p>Identified and briefly described a comprehensive range of the practical implications of such differences and differentiated precisely between savings in time and money.</p>

Personal, Learning and Thinking Skills

The list below is indicative of the way this unit supports the development of PLTS, as opposed to the achievement of PLTS that are possible through the assessment. The unit supports the development of more PLTS than are covered through the assessment criteria alone.

Alternative approaches could be selected.

The learner could develop PLTS by:

Independent enquirers

- planning and carrying out research into modern methods of construction
- researching information on a variety of modern methods of construction

Creative thinkers

- asking questions of experienced construction personnel about the nature of the changes they have seen during their career and their perception of any associated benefits

Reflective learners

- reviewing the modern and traditional practical activities to determine which methods and/or techniques are the easiest to learn and which lead to the most reliable end product

Team workers

- making effective contributions to group discussions regarding choice of construction methods to meet the requirements of given construction projects

Self-managers

- organising their time and resources to achieve activity goals

Effective participators

- discussing differences between the methods used to achieve activity goals.

Suggested learning resources:

Teachers should ensure that learners can access a wide range of resources including textbooks, journals, industry literature and government regulatory authority publications. Electronic media resources in the form of CD ROMs, DVDs, videos and suitable online internet applications should also be available. Industry information from some of the larger organisations involved in off-site fabrication such as Kingspan and Yorkon will be particularly useful in support of this unit.

Books

Building Construction Handbook, 6th Ed
Published by: Butterworth-Heinemann, 2006
ISBN: 0750668229

Chudley & Greeno

Offsite construction: an introduction
Published by: BRE Press, 2003
ISBN: 186081624X

Stirling, C

Journals and magazines

Building
Construction News

Videos, CDs and DVDs

The Construction of Houses – eight in series, more on the way

University of West of
England Video
Project

E-resources for construction

www.rsc-wales.ac.uk

Websites

- www.citb.org.uk
- www.bre.co.uk
- www.kingspanoffsite.com
- www.yorkon.co.uk
- www.celcon.co.uk
- www.homein.org.uk
- www.hse.gov.uk
- www.communities.gov.uk
- www.ibstock.com
- www.constructingexcellence.org.uk
- www.idea.gov.uk