

SAMPLE ASSESSMENT MATERIAL

UNIT 1 - DESIGN THE BUILT ENVIRONMENT: DESIGN INFLUENCES



This example assignment has been developed by AQA-City & Guilds as part of a QCDA funded project and has been reviewed by practitioners, representatives of sector and awarding organisations and QCDA.



Qualifications
and Curriculum
Development
Agency

Construction and the Built Environment

Foundation Diploma (Level 1) Unit 1 - (CBE1U1)

Design the built environment: design influences

Internal Sample Assessment Material (iSAM)

Information for teachers

This assignment is provided as an example only. Consortia should produce their own assignments in line with the assessment section of the unit, based on local delivery circumstances.

Controlled assessment

Aspect		Level of control
1	Task setting	Limited
2	Task taking	
	a Time	Limited
	b Resources	Medium
	c Supervision	Medium
d Collaboration	Medium	
3	Task marking	Medium

A limited level of control means that consortia have control of the assessment process, within the guidance set out by AQA - City & Guilds in the unit specification. This implies that the consortium can alter the internal sample assessment materials (iSAMs), in accordance with the guidance provided in the unit specification, to take account of local delivery circumstances.

A medium level of control means that the parameters for that area are more closely controlled by AQA - City & Guilds and that there are limits to the changes that can be made to the assessment materials by consortia. These limits are made clear in the appropriate guidance.

Task setting: limited level of control

Consortia should feel free to adapt the iSAM to take into account local delivery circumstances, but must ensure that the assignment briefs:

- address the learning outcomes and assessment criteria set out in the unit specification
- follow the guidance contained in the 'Assessment' section of the unit specification
- require the learner to produce evidence in the form specified in the 'Evidence requirements' section of the unit specification
- are structured in the form specified in the 'Assignment structure' section of the unit specification
- are internally moderated by the domain assessor, with all suggested amendments and corrections made prior to issue.

Where consortia take up the opportunity to adapt the exemplar assignment material to suit their local delivery circumstances, they must be careful to use a project of a similar size and complexity in order to ensure that the scope and level of challenge remain the same. Where no suitable construction project is available locally, it is permissible for the centre to devise a virtual project as a basis for the assessment for the unit. It is however important that any adapted assignment brief, whether based on a real or a virtual construction project, allows the learners to address all of the set tasks in such a way that they have a clear opportunity to achieve each of the assessment criteria in the unit.

Task taking: limited (time) or medium (all others) level of control

Consortia may make limited changes to the iSAM but these must be within the following parameters as specified either in the unit or overall qualification specifications.

Time

12 of the 30 Guided Learning Hours (GLH) available for the delivery and assessment of this unit should be dedicated to production of the assessment evidence by the learner. A maximum of three extra hours may be added for individual learners at the discretion of the consortium. This assignment comprises five tasks, successful completion of which will allow the learner to address all of the five learning outcomes. The time recommended for each of the assessment tasks is shown in the table below.

Task	Recommended assessment time (h)
1	2.25
2	3
3	1.5
4	3
5	2.25

Resources

Learners will require access to pre-prepared design sketches, drawings, schedules and specifications of all kinds, manual drawing equipment, digital cameras and ICT equipment with internet access. There are no constraints on the resources that may be used, but the above should be provided as a minimum.

Supervision

Learners may research information for the project in any place and at any time, but the process of compiling the technical report on the design and planning processes, the benefits of a sustainable approach to design and the properties of construction materials, together with the testing of those construction materials as part of a team, must take place under the supervision of the assessor within the 12 hours allocated for assessment. This applies to all of the tasks that comprise the assessment for this unit.

Collaboration

Learners may work in groups when performing simple tests on construction materials. Team working is a requirement of assessment criterion 5a and is associated with PLTS TW1 and TW2. Good practice in the use of team work should involve learners in performing some, but not all of the tests, recommended in the unit specification, but sharing the results of the tests among the wider group. Each learner can then use their own results, together with the results provided by other members of the team, to write up the results of the tests, perform any necessary calculations, draw any necessary graphs and draw suitable conclusions. A useful size for a team would be six learners, in order to ensure that a sufficient breadth of material testing is done in the time available. Team working is not associated with learning outcomes 1, 2, 3 and 4 or with assessment criteria 1a, 1b, 2a, 2b, 3a, 4a, 4b or 5b. Any evidence submitted for assessment must of course be authenticated as the learner's own work, by both the teacher and the learner.

Task marking: medium level of control

Assessors must use the 'best fit' method to assess the learners' work. This means that they must follow the three 'bands' provided in the assessment grid included in the unit. Assessors are however free to interpret the assessment grid in terms of the local delivery and assessment issues noted in the 'task setting' section above.

Consortia should ensure that, where there are two or more assessors for the unit, standardisation meetings take place to ensure that every assessor is assessing to the same standard. It is good practice for each assessor to assess five to ten assignments (depending upon the total number of assignments to be assessed) in pencil, prior to the standardisation meeting. Discussions at the meeting should focus upon resolution of any different interpretations of the marking scheme, consideration of unexpected but apparently acceptable responses to the set tasks, and agreement of an agreed, unified mark scheme to be followed thereafter by all assessors. Those assignments that were assessed in pencil before the meeting, should then be reassessed in pen, using the agreed mark scheme.

Consortia must also ensure that, even where there is only one assessor for the unit, the domain assessor samples all assessment decisions made, as part of the internal moderation process.

Assessors are encouraged to provide feedback at intermediate stages of the evidence production in the form of progress reviews. They should not however comment on the marks achieved at intermediate stages, nor should they provide any specific direction or detail on how the portfolio of evidence could be improved. During progress reviews assessors must confine themselves to pointing out those tasks that have yet to be addressed properly and should therefore confine themselves to a general narrative only. Two progress reviews are suggested as being manageable and the learners may redraft their work after such progress reviews, but not after agreement of the final assessed mark, which will take place at the external moderator's second visit.

Assessors must discriminate between those learners who fail to complete a portfolio of evidence because of illness or indisposition, and those who simply fail to complete, for one reason or another, but without mitigation. The latter must, if they wish to complete the unit, be provided with a completely new assignment brief, and the work done previously should not count towards the mark for the retaken assignment. The former group may, assuming that the mitigating circumstances are validated, be given extra time to complete the project, or be allowed to revisit the original assignment when able. In short, resubmission of the original assignment should only be permitted where the learner was unable to complete the assignment on time due to circumstances outside his or her direct control.

Information for learners

Assignment overview

This assignment is the only assignment for this unit and addresses all the learning outcomes and assessment criteria contained in the unit. The mark you obtain for this assignment will be the mark you are awarded for the unit.

You will be provided with access to samples of construction materials, facilities for the testing of construction materials, pre-prepared design sketches, drawings, schedules and specifications of all kinds, manual drawing equipment, digital cameras and ICT equipment with internet access.

You may research information for the project in any place and at any time, but the process of compiling the report on the factors that influence the design process, the factors that affect the planning process, the influence of the planning process on design and the sustainable environment, the important properties of common construction materials and how these properties influence their use, the testing of construction materials and the interpretation of the results of these tests, must take place under the supervision of the assessor within the 12 hours allocated for assessment.

You may work in groups when testing construction materials for a wide range of their properties, but any evidence submitted for assessment must be authenticated as your own work, by both the teacher and yourself.

When you have completed this unit you should:

1. know the factors that influence the design process
2. know the factors that affect the planning process and how planning affects design
3. understand how a sustainable approach can be used in good design
4. understand how the properties of construction materials determine their use
5. be able to perform simple tests on construction materials.

In order to attain a high mark in this unit, you must address all of the above. A table showing how the marks for the different assessment topics are weighted is shown below. This shows how the final mark for your work will be determined.

Weighting of assessment criteria topics

Assessment criteria topics	Weighting	Marks
1. Factors that influence the design process	18.75%	9
2. Factors that affect the planning process	25%	12
3. Design considerations for a sustainable environment	12.5%	6
4. Material properties, uses and sustainability	25%	12
5. Material testing	18.75%	9
Total	100%	48

Assignment brief

Scenario

A property developer has purchased a plot of land on an estate of large 1920s detached houses. The land contains a number of mature trees that are protected by Tree Protection Orders. The developer intends to erect twelve townhouses and a small convenience store. Primary utility services (water, electricity, gas and drainage) will need to be put in place and an access road to and from the construction site will be required.

The local community has expressed concerns about the nature of the development. These concerns include the anticipated disruption caused by the construction work, increased traffic levels both during and after construction, young people congregating outside the convenience store at weekends and in the evening, and the inappropriate nature of the proposed development. One local resident has commented that the development does not comply with the Local Area Plan prepared by the local authority.

The design team engaged by the developer believe that the concerns expressed are unjustified, and they are keen to reassure the public that the new development will be a good thing for the community. They intend to do this through a series of leaflets that will explain the way in which the design and planning process works, and how community concerns will be taken into account in the design. The task of investigating and reporting on the issues raised by the local community, and preparing and circulating the leaflets, is to be given to a trainee architectural technologist employed by the design practice.

Roles

Your teacher will take the role of the property developer in this assignment. You will take the role of the trainee architectural technologist who is to liaise with the local community. The work you do to address the tasks in the assignment brief will be used to address the issues raised by the local community. You may use any source of information that seems appropriate to you, including any advice or guidance provided by any employers and professional practitioners you meet during the delivery of the unit. You must however be careful to reference any comments or information that is not your own work. You should present your evidence in a portfolio, in the form stated in each of the tasks. Your teacher will be the assessor for this unit and will mark your portfolio of evidence.

Task 1

- (a) Identify the social, economic, infrastructural and legal factors that will influence the design of the town houses on the new development.

Learning Outcome 1, Assessment Criteria 1a (i to iv)

- (b) Identify the human and physical factors that will affect the design of the convenience store on the new development.

Learning Outcome 1, Assessment Criteria 1b (i to iv)

You should:

- allow 2h 15min to complete this task
- hand in a technical report on the above to your teacher, as part of your portfolio
- include sketches and/or images with your written work, where appropriate

Task 2

- (a) Identify the important factors that will affect the planning process for the convenience store on the new development.

- (b) identify and describe the ways in which the planning process will affect the design of the townhouses on the new development.

Learning Outcome 2, Assessment Criteria 2a (i to v) and 2b, PLTS (IE5)

You should:

- allow 3h to complete this task
- hand in a technical report on the above to your teacher, as part of your portfolio
- include sketches and/or images with your written work, where appropriate

Task 3

- (a) Explain how good design practice will protect the existing trees on the land.
- (b) Explain how the use of locally sourced materials will increase the sustainability of the new development by preserving limited natural resources.
- (c) Explain how recycling techniques can be used in the new development to create a sustainable built environment.

Learning Outcome 3, Assessment Criteria 3a (i to v), PLTS (IE3, IE6)

You should:

- allow 1h 30min to complete this task
- hand in a technical report on the above to your teacher, as part of your portfolio
- include sketches and/or images with your written work, where appropriate

Task 4

- (a) List the important properties of the materials to be used in the new development (assume these to be timber, brick, concrete, glass and plastic).
- (b) How do the properties of these materials determine the use to which they will be put in the new development?

Learning Outcome 4, Assessment Criteria 4a (i to ix) and 4b, PLTS (IE4, IE6)

You should:

- allow 3h to complete this task
- hand in a technical report on the above to your teacher, as part of your portfolio
- include sketches and/or images with your written work, where appropriate

Task 5

- (a) Perform, as part of a team, simple tests on the construction materials specified for use in the new development. The materials must be tested for strength, durability, water absorption, thermal movement and moisture movement. Your contribution is to test two materials for two different properties. You must carefully record the results of these tests and share them with the other members of your team.
- (b) Interpret the results of the tests performed by the team. You must do this by commenting upon what the test results tell us about the properties of each material, and hence the uses to which each material could be put.

Learning Outcome 5, Assessment Criteria 5a and b, PLTS (IE2, SM3, TW1, TW2)

You should:

- allow 2h 15min to complete this task
- share the results of your tests with the rest of your team
- hand in the results of your tests, together with a report on how the tests were performed, and a short report on your interpretation of the results, to your teacher
- include sketches, tables, calculations and graphs with the results of your tests, where appropriate

Assessment grid

Assessment criteria topic	Band 1	Band 2	Band 3
	The learner has:		
1. Factors that influence the design process	Demonstrated a basic understanding of the factors that affect the design process by correctly identifying a limited number of factors, and relating those factors to the design of the building or structure under consideration in a superficial but generally accurate fashion.	Demonstrated a partial understanding of the factors that affect the design process by correctly identifying many of the factors, classifying them as main, human or physical, and relating the factors to the design of the building or structure under consideration in a clear and accurate fashion.	Demonstrated an in-depth understanding of the factors that affect the design process by correctly identifying all or nearly all of the factors, clearly and accurately classifying them as main, human or physical, and relating the factors to the design of the building or structure under consideration in a thorough and detailed fashion.
2. Factors that affect the planning process and how planning affects design	Demonstrated a basic understanding of the factors that affect the planning process by correctly identifying a limited number of factors, and relating those factors to the building or structure under consideration in a superficial but generally accurate fashion.	Demonstrated a partial understanding of the factors that affect the planning process by correctly identifying many of the factors, describing clearly the impact of planning on the design process, and relating the factors to the building or structure under consideration in a clear and accurate fashion.	Demonstrated a detailed understanding of the factors that affect the planning process by correctly identifying all or nearly all of the factors, describing fully the impact of planning on the design process, and relating those factors to the building or structure under consideration in a thorough and detailed fashion.
3. Design considerations for a sustainable environment	Provided a basic explanation of the factors that should be considered when designing a sustainable environment, and supported this explanation with a limited number of examples and a superficial description of how these relate to the design of the building or structure under consideration.	Provided a partial explanation of the factors that should be considered when designing a sustainable environment, and supported this explanation with several appropriate examples and a clear and accurate description of how these relate to the design of the building or structure under consideration.	Provided an in-depth explanation of the factors that should be considered when designing a sustainable environment, and supported this explanation with suitable and wide-ranging examples and a thorough and detailed description of how these relate to the design of the building or structure under consideration.

Assessment criteria topic	Band 1	Band 2	Band 3
	The learner has:		
4. Materials properties, uses and sustainability	Identified the basic properties of common construction materials, provided a brief explanation of how these properties determine their use, and considered sustainability issues in a superficial manner.	Identified most of the important properties of common construction materials and provided a reasoned account of how their properties determine their use, with a brief explanation of their impact in sustainability terms.	Identified all the important properties of common construction materials and provided an in-depth account of how their properties determine their use, with a detailed explanation of their impact in sustainability terms.
5. Material testing	Made a minor contribution to a team performing practical tests on construction materials, and produced basic, but accurate, interpretations of some results.	Made a useful contribution to a team performing practical tests on construction materials, and produced clear and accurate, interpretations of most results.	Made a significant contribution to a team performing practical tests on construction materials, and produced thoughtful and accurate interpretations of some results.

Personal, Learning and Thinking Skills (PLTS)

The list below is indicative of the way this assignment supports the development and achievement of PLTS.

Independent enquirers

- IE2 planning to carry out research into the testing of construction materials, and appreciating the consequences of any decisions made
- IE3 considering the influence of circumstances, beliefs and feelings on the factors that influence the design process
- IE4 analysing and evaluating information, and judging its relevance and value, when drawing conclusions about how properties of materials determine their usage
- IE5 exploring issues and problems from different perspectives in order to explain how good design can help create a sustainable environment
- IE6 supporting conclusions, using reasoned arguments and evidence, on how good design can help create a sustainable environment

Team workers

- TW1 co-operating with others to work towards common goals when working as a team to test construction materials
- TW2 reaching agreements, and managing discussions to achieve results, when working as a team to test construction materials

Self-managers

- SM3 organising time and resources, and prioritising actions, when testing construction materials