

CONSTRUCTION AND THE BUILT ENVIRONMENT

Unit 1: Design the built environment: design factors



Construction and the Built Environment

Level 3 Unit 1: Design the built environment: design factors

Sample scheme of work

This is an example of a possible scheme of work. You can use it as it is, or you can adapt it to meet your own delivery needs. You may wish to consider the provision of extra learning workshop time for those learners who need additional learning time.

This unit is assessed through an externally set and marked examination of duration two hours. This will be a written examination with ten questions. The total number of marks available for the test is 60. Precise guidance on the examination specification is available in the unit specification.

This unit also contains sections entitled 'Guidance for Delivery', 'Opportunities for applied learning' and 'What activities might be involved in this unit?' This scheme of work is designed to support the information therein.

Total GLH	60
Aim	<p>This topic provides learners with the opportunity to explore the design factors that affect the design process. The learners will investigate the changes in style and attitude that have occurred over time, and the impact of political policies and priorities on design. They will also explore the response of the built environment to community needs and social integration, and the relationship between form, function and visual appearance.</p> <p>When they have achieved this unit learners will:</p> <ul style="list-style-type: none"> • understand how historical, political, economic, social, infrastructural and aesthetic factors affect design • know how and why the built environment has changed over time • understand how the built environment adapts to meet changing political, economic, social, infrastructural and aesthetic requirements.

<p>Notes</p>	<p>The scheme of work presented here uses a task-based approach to teaching and learning, with applied learning being the central theme. The assessment for this unit is, however, external, and the scheme of work takes this into account.</p> <p>Key for Functional Skills (FS)</p> <p>There are, at present, no Level 3 Functional Skills. Learners following the Advanced Diploma will need to achieve Level 2 Functional Skills, if they have not already achieved these prior to commencement of the Advanced Diploma.</p> <p>There are three Level 2 FS. These are broken down as follows:</p> <p>English: speaking and listening (S&L E); reading (Read E); writing (Write E); or E (all) for all three</p> <p>Mathematics: representing situations using mathematics (RS M); analysing and processing using mathematics (A&P M); interpreting and presenting results (I&P M); or M (all) for all three</p> <p>Information and Communication Technology: use ICT systems (Use ICT); find and select information (F&S ICT); develop, present and communicate information (DPC ICT); or ICT (all) for all three</p> <p>Guided Learning Hours</p> <p>There are 60 GLH associated with this unit. For the purposes of this scheme of work it is assumed that each session will be one hour long and that there will therefore be 60 sessions. Consortia are of course free to organise the time in any way that suits the needs of their learners and of the centres that comprise the consortium.</p> <p>Evidencing PLTS and FS</p> <p>PLTS are signposted against the assessment criteria throughout the unit, and can be evidenced from the learners' assessed work.</p> <p>Where FS are signposted it is because there are opportunities for the development of FS, rather than opportunities for evidencing achievement of FS from the formative assessments and carefully thought out teaching and learning strategies for the unit.</p>
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Session number	Topic	Suggested activities, assignments, assessments and resources	AC	PLTS	FS	GLH	Comments
1	Introduction to unit	<p>Overview of the unit, how it relates to other units in the Principal Learning and how it will be delivered and assessed.</p> <p>Useful (and short) video and film resources include:</p> <p>‘What employers are saying about the Diplomas’</p> <p>‘Diplomas: Getting Involved’</p> <p>‘Work experience’</p> <p>– all to be found at www.dcsf.gov.uk/14-19/</p> <p>‘Introduction to the Diploma’ (animated film) can be found at http://yp.direct.gov.uk/diplomas</p> <p>There is also a useful pamphlet entitled ‘The Diploma, Bringing Learning to Life’, which can be downloaded from http://yp.direct.gov.uk/diplomas/explore_more/media_centre</p> <p>Note also that useful information can be found at:</p> <p>www.connexions-direct.com and</p> <p>www.cbediploma.co.uk</p>	-	-	-	2	<p>This may be the first unit attempted by most learners. The introduction will therefore benefit from the use of multimedia relating to the programme as a whole. The emphasis must be on the Line of Learning rather than the structure of the programme. The learners will be keen to begin to explore the construction and built environment sector and this should commence as soon as possible.</p>

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2	Factors that affect the design of the built environment	<p>The first activity should involve the teacher identifying and describing the various factors that affect the design of the built environment, in general terms.</p> <p>The second activity should involve independent learner research, using the internet to assist in the compilation of a schedule of important design factors to be considered for a new development. This should be followed by a presentation from a design professional that uses the compiled schedule as a basis for a discussion of how the design process works and the various stages a design solution will pass through.</p> <p>The third activity should involve splitting the class into three smaller groups. One group should be allocated to an established development, another to one in the process of construction and the third to one still at the 'drawing board' stage. Each group must make visits: the first to the existing development, the second to the construction site and the third to the design office. Each should make contact with any community groups or pressure groups that opposed, or are opposing, the development(s) and collect source materials from these groups. The second and third groups should collate all the materials they have collected into a presentation to be made to the class and their teachers.</p> <p>The fourth stage should involve the whole group in the production of a simple environmental assessment for the development still at the design stage, followed by a discussion of the implications for the design of the building.</p> <p>Useful resource: www.architecture.com</p>	AC1a–c	IE5 SM3 SM4 EP1	E (all) ICT (all)	16	<p>Learners undertaking the Advanced Diploma may already have completed the Higher Diploma. Other (new) learners may not have done so. Teachers will need to develop differentiated teaching and learning strategies if a group contains both kinds of learner.</p> <p>There are clear links between this unit and Level 3 Units 2 and 3, and there are advantages in joint delivery, but teachers should note that the three units must be assessed separately.</p> <p>New learners should begin to learn to communicate using construction drawings. This could begin with learners copying the drawings provided for the third activity, and then moving on to produce basic sketches and drawings to support their presentations.</p>

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3	The development of the built environment over time	<p>The first activity requires the teacher to identify and describe the ways in which the built environment has developed over time. The first of the three groups referred to in topic 1 should now make their presentation on this topic. They should use the material they collected to analyse and evaluate how the design of the established building was influenced by when it was built, changing styles and approaches, different political policies and priorities, different funding arrangements, and the cyclical nature of the economy. This should be followed by a whole-group teacher-led discussion of how this is exemplified by other local buildings from other periods. The teacher must prepare a series of posters or slides relating to these buildings, to support this discussion and provide examples for the group to consider.</p> <p>Communication in the construction and built environment sector is, in large part, done by graphical means. The second activity should involve the learners in the interpretation and production of documents which illustrate changing styles and approaches in the design of the built environment. This should include sketches, drawings, schedules and specifications as appropriate.</p> <p>A range of pre-prepared drawings of all kinds should be made available, both in hard copy and in electronic form, and these should be supported by photographs, and other images, of the buildings being constructed, or after construction.</p>	AC2a, b	IE4 IE5 RL6	E (all) ICT (all)	22	<p>There is no formal requirement for the learners to display competent drawing skills at this stage, but standard drawing conventions should be used and the work should be neat and tidy.</p> <p>The teacher should monitor the production of graphical information carefully so that a portfolio of basic information is produced by each learner, without the learners attempting over-ambitious drawing tasks.</p> <p>Useful resources include: www.architecturecentre.net www.cabe.org.uk www.dqi.org.uk</p>

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4	The adaptation of the built environment to meet changing needs	<p>The first activity should involve the teacher identifying and explaining the factors that have led to changes to the local built environment. This should lead to a whole-class discussion of how changing priorities, different funding regimes, and the state of the economy over time, have influenced the ongoing renewal of the built environment to meet the changing needs of the community.</p> <p>The second activity should involve small-group work with each group researching a different theme. These themes should include the needs of the community at specific times in the history of the community, the way in which the built environment has been used to enhance social inclusion and how developments in transport have influenced the built environment. The groups should make a short presentation of their findings to the rest of the class. The teacher should collate these presentations to create a detailed handout.</p> <p>The third activity should involve a survey of the local community. The survey form will need careful development, in order that the questions are simple, straightforward and asked in the correct order. The teacher will need to carefully manage the process, but the learners should have a say in devising the questions to be asked. Each learner should return five completed survey forms and the results should be analysed and discussed in class, in terms of the relationship between function and form, the public perception of the visual impact of local architecture and landmark buildings, and the value placed upon development of the local built environment.</p>	AC3a, b	IE3 IE4 IE5	E (all) M (all) ICT (all)	16	<p>Site visits</p> <p>The group research should use the internet, the school or college library, the public library, the local town or city archives and local museums.</p> <p>The survey should ask questions such as:</p> <p>which past development do you remember most clearly, what did it replace, do you feel that it achieved its intended purpose, do you think that it was needed, do you personally value the development, is it aesthetically pleasing?</p> <p>Useful teaching resources can be found at:</p> <p>www.architecturecentre.net</p> <p>www.cabe.org.uk</p> <p>www.dqi.org.uk</p> <p>www.communities.gov.uk</p>

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5	Mock assessment	<p>It is recommended that two hours are spent in undergoing a 'mock' examination. After the teacher has marked the papers, two further hours should be dedicated to the teacher going through the paper, giving the correct answers and explaining the logic behind the selection of the correct answers.</p> <p>An exemplar external assessment and mark scheme for this unit can be downloaded from: www.diplomainfo.org.uk/CBE-External-SAMs.asp</p>	All	-	-	4	It is important that teachers use the 'Examination specification' found in the unit specification to prepare their learners for the written examination. The examinations are set very precisely against this examination specification, and learners will benefit from knowing the broad areas to be examined and how the marks are distributed across the unit.