

Analysing the Construction Industry and Built Environment

Reference : T/504/7867

Level : Level 3

Credit Value : 9

Guided Learning Hours : 63

Aim : The aim of this unit is to provide the learner with the knowledge of building methods and construction technology in relation to: - Understanding activities undertaken in the construction industry and wider built environment - Understanding different roles and responsibilities within a construction project - Understanding physical and environmental factors when undertaking a construction project - Understanding how construction can be beneficial to the built environment - Understanding principles of sustainability on a construction project.

Learning Outcomes		Assessment Criteria
The Learner Will		The Learner Can
1	Understand the different activities undertaken with the construction industry and built environment.	<p>1.1. - Describe the range of activities undertaken by the construction industry and built environment.</p> <p>- Could include:</p> <ul style="list-style-type: none"> - Building, finishing, architecture, town planning, surveying, civil engineering, repair and maintenance, building engineering services, facilities management, construction site management, plant maintenance and operation, demolition. <p>1.2. - Describe the types of work undertaken within the construction industry.</p> <p>-</p> <p>Could include:</p> <ul style="list-style-type: none"> - Residential, commercial, industrial, retail, recreational, leisure, health, transport infrastructure, public buildings, heritage, conservation, educational, utilities and services. <p>1.3. - Describe the different types of clients within the construction industry.</p> <p>-</p> <p>Could include:</p> <ul style="list-style-type: none"> - private; individuals, sole traders. - corporate; large companies/corporations, public and private corporations or initiatives. - government led; national, regional, local.
2	Understand the different roles and responsibilities undertaken within the construction industry and built environment.	<p>2.1. - Explain the different roles and responsibilities of the construction workforce.</p> <p>-</p> <p>Could include:</p> <ul style="list-style-type: none"> - client, architect, designer, estimators, planners, buyers. - land agents, land surveyors, building surveyors, quantity surveyors. - consulting engineers, plant engineers, site engineers, specialist engineers, mechanical engineers. - site
3	Understand the physical and environmental factors when undertaking a construction project.	<p>3.1. - Explain the difference between physical and environmental factors.</p> <p>-</p> <p>Could include:</p> <ul style="list-style-type: none"> - planning and development stages of the construction process, the impact on the human/man-made environment. - regarding the impact of a development or redevelopment on the natural environment. <p>3.2. - Explain the environmental factors that have to be considered as part of the construction planning process.</p> <p>-</p> <p>Could include:</p>

		<ul style="list-style-type: none"> - Planning requirements. - building regulations. - development or land restrictions. - building design and footprint. - use of building / structure. - impact on local amenities. - impact on existing services/utilities. - impact on transport infrastructure. <p>- topography of the proposed development site.</p> <p>- green field site or brown field site.</p> <p>3.3. - Explain the physical factors that have to be considered as part of the construction planning process.</p> <p>-</p> <p>Could include:</p> <ul style="list-style-type: none"> - topography of the development site. - existing trees and vegetation. - impact on existing wildlife / habitats. - size of land and building footprint. - access to the building/structure, approach roads and footpaths. - supply of services to the building/structure (mains water, drainage, electricity, gas, telecoms etc). <ul style="list-style-type: none"> - natural waterways, lakes, ponds, ditches. - land restrictions, surrounding properties, protective orders on land, scheduled buildings or monuments. - future development and expansion.
4	Understand how construction projects can benefit the built environment.	<p>4.1. - Describe the different land types available for development.</p> <p>-</p> <p>Including:</p> <ul style="list-style-type: none"> - green field land/ sites. - brown field land/sites. - reclaimed land/contaminated land. <p>4.2. - Explain the advantages and disadvantage of development on different land types.</p> <p>-</p> <p>including:</p> <ul style="list-style-type: none"> - green field sites. - brown field sites. <p>Could include:</p> <ul style="list-style-type: none"> - planning restrictions. - land use. - building restrictions. - cost. - contaminated land. - reusing land. - space issues. <p>4.3. - Describe the social benefits of construction development.</p> <p>-</p> <p>Including:</p> <ul style="list-style-type: none"> - regeneration of waste land. - local employment. - improved housing. - improvements to local infrastructure. - improvements to local amenities.
5	Understand the principles of sustainability within the construction industry and built environment.	<p>5.1. - Explain what is meant by the term sustainability.</p> <p>-</p> <p>Could include:</p> <ul style="list-style-type: none"> - finite resources. - global shortages, needs of future generations. - environmental factors, global warming, climate change, extinction of species and vegetation, destruction of natural resources. - social regeneration. <p>5.2. - Explain how sustainability can be applied to construction and civil engineering projects.</p> <p>-</p>

Could include:

- green construction methods.
- use of green or locally sourced materials.
- increase use of reclaimed and recycled materials.
- zero carbon initiatives.
- energy saving technology.
- alternative energy sources.
- waste water recycling and water saving initiatives.
- improved waste management.

5.3. - Explain the benefits of using sustainable materials and construction methods.

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Could include:

- locally sourced materials.
- guaranteed availability of materials.
- enhanced material properties (energy saving).
- lower carbon footprint.
- protecting the natural environment.
- controlled waste management.