Unit 4: Construction Processes and Operations for Low-rise Domestic Buildings

Unit code: D/600/0066

QCF Level: 2

Credit value: 5

Guided learning hours: 30

Unit aim and purpose

This unit enables learners to know the processes and operations used in low-rise construction, the sequencing of construction work, and how the properties of construction materials affect their specification and use.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes	Assessment criteria
1 Know the stages of a construction project and the importance of good planning and sequencing of construction work	1.1 identify the stages of a construction project
	1.2 describe the stages of a construction project
	1.3 identify the craft operations involved in each stage
	1.4 describe the craft operations involved in each stage
	1.5 outline why construction craft operations must be performed in a logical sequence
	1.6 describe the standard documentation used to support the planning and sequencing of construction work
2 Know the traditional and modern construction processes and operations used in low-rise domestic construction	2.1 identify the main functional requirements of low-rise domestic buildings
	2.2 describe the processes and operations used in traditional methods of construction
	2.3 describe the processes and operations used in modern

	methods of construction
3 Understand the properties and uses of natural, processed and manufactured construction materials.	3.1 classify construction materials as natural, processed or manufactured
	3.2 assess the properties of common construction materials.

Unit content

1 Know the stages of a construction project and the importance of good planning and sequencing of construction work

Stages of construction: setting up site; groundwork; substructure; superstructure; services; finishes; external works

Operations: key activities (bricklaying; carpentry and joinery; roofing); other activities, eg painting and decorating, ground work, concrete work, stonemasonry, plastering, plumbing, electrical installation

Sequencing and planning: appropriate and logical order of craft operations on site; associated planning documentation (including use of bar and Gantt charts); production problems caused by inappropriate planning or sequencing of work; effect of production problems and unforeseen events on productivity and cost, eg materials shortages, bad weather, accidents on site, industrial action, vandalism, flooding or a major trench collapse

2 Know the traditional and modern construction processes and operations used in low-rise domestic construction

Functional requirements of elements of low-rise domestic buildings: key elements and their functions (foundations, floors, walls, roofs, doors, windows, stairs, services), integration of elements to construct a building

Traditional construction: key characteristics (discrete units, individual designs and styles, load bearing walls, fixed internal partitions, on-site craft operations, labour intensive methods of work)

Modern construction: key characteristics (large complexes, modular systems, greater dimensional coordination, load bearing frames, non-load bearing curtain walling, lightweight demountable internal partitions, increasingly sophisticated services, requirement for a differently skilled workforce, off-site fabrication, on-site assembly), effect of off-site production of components, elements and materials on productivity and costs on-site

3 Understand the properties and uses of natural, processed and manufactured construction materials

Common materials: natural materials (stone, timber); processed materials (concrete, bricks, metals, alloys, timber products); manufactured materials (cements, limes, plastics, paints)

Uses and properties of materials: specification of appropriate materials; properties that make specific materials suitable for specific purpose