

Unit 4: Management Principles and Application for Construction and the Built Environment

Unit code: T/601/1249

QCF level: 5

Credit value: 15

● Aim

This unit provides learners with an opportunity to understand management principles and their application to the construction and built environment sector.

● Unit abstract

This unit introduces learners to the principles and application of management as they relate to the technical and professional disciplines of construction, civil engineering and building services engineering. It is based on the principles of the *Latham Report of 1994*, which advocated non-adversarial, multi-disciplinary teamworking. Learners will gain an understanding of how these principles may be applied to the management of construction, building services engineering or civil engineering activities through the application of recognised management techniques.

● Learning outcomes

On successful completion of this unit a learner will:

- 1 Understand the evolution of management principles and their application to the construction and built environment sector
- 2 Understand the construction and built environment sector in terms of structures and activities
- 3 Understand management techniques used in the construction and built environment sector
- 4 Understand the methods of procurement and contracting used in the construction and built environment sector.

Unit content

1 Understand the evolution of management principles and their application to the construction and built environment sector

Principles of management: management pioneers and thinkers eg McGregor, Maslow, Herzberg, Drucker; definitions; processes eg forecasting, planning, organising, motivating, controlling, coordinating, communicating

Human resources management: individuals and teams (behaviour, motivation, leadership)

2 Understand the construction and built environment sector in terms of structures and activities

Structure and activities: sectors eg construction, civil engineering, building services engineering; nature of services provided by each sector; general roles and responsibilities of members of project teams; specific roles and responsibilities of professionals within project teams

Organisational structures and approaches: direct line; lateral, functional and staff relationships; chain of command; span of control; concepts of responsibility eg duty, authority, accountability, delegation; corporate theories eg mission, strategy, planning, policies, objectives, values; centralised and decentralised organisations; project-based organisations; job design; team structures; teamworking

Influence of scale and size of contracts: project and contract procurement; contractual methods; impact of contract on management of organisations eg role of designer, main contractor, sub-contractor, supplier

3 Understand management techniques used in the construction and built environment sector

Planning: project organisation (layout and accommodation, method statements, plans of work, safety plans) coordination; monitoring; control eg Gantt charts, critical path arrow diagrams, precedence diagrams, line of balance; manual and computer-based techniques

Procurement scheduling and control: materials; plant; supply chain management; Just In Time; recycling and safe disposal of demolished materials; waste management; scheduling; resourcing and utilisation of sub-contracted and direct labour; budget and cost control (estimated cost, planned performance cost, actual cost, cash flow)

Quality control: audit; inspection; statutory liaison

Risk management: assessment; liabilities; risks; security; insurance requirements

Other considerations: workforce recruitment; training; assessment and legislative requirements eg equal opportunities, health and safety; information verification and control; site meetings; communication and reporting; client liaison; public liaison; government initiatives

4 Understand the methods of procurement and contracting used in the construction and built environment sector

Procurement methods: traditional methods of tendering; other methods eg partnering, public private partnerships, Private Finance Initiative (PFI); client and project objectives

Contracts: legal definitions; forms of contract; stages within a contract; contractual obligations of performance (time, cost, quality, insurance, warranty arrangements); rights of parties to contract

Practice of procurement: construction teams eg multi-disciplinary teams, integrated teams, partnering; government initiatives eg Latham Report, Egan Report; benchmarking; key performance indicators (KPIs); sustainability and environmental management issues; legislation; corporate values; professional standards

Learning outcomes and assessment criteria

Learning outcomes On successful completion of this unit a learner will:	Assessment criteria for pass The learner can:
LO1 Understand the evolution of management principles and their application to the construction and built environment sector	1.1 explain the principles of management used in the construction and built environment sector 1.2 explain the influence of human resources management on the performance of individuals and teams
LO2 Understand the construction and built environment sector in terms of structures and activities	2.1 discuss the structure and activities of the construction and built environment sector 2.2 evaluate the organisational structures and approaches used in the construction and built environment sector 2.3 discuss how the scale and size of contracts influence business practices within the construction and built environment sector
LO3 Understand management techniques used in the construction and built environment sector	3.1 explain the use of planning in the management of construction projects 3.2 explain how procurement scheduling and control are managed 3.3 explain how quality control and risk management are managed
LO4 Understand the methods of procurement and contracting used in the construction and built environment sector	4.1 evaluate the procurement methods used in the construction and built environment sector 4.2 explain the use of contracts to manage construction projects 4.3 evaluate the impact of procurement techniques on the organisation and operation of construction firms and construction projects

Guidance

Links

This unit links with other Edexcel BTEC HN Construction and the Built Environment units, for example:

- Unit 11: Contractual Procedures and Procurement for Construction and the Built Environment
- Unit 14: Economics for Construction and the Built Environment
- Unit 15: Production Management for Construction
- Unit 17: Project Management for Construction and the Built Environment
- Unit 57: Project Management for Building Services Engineering.

The content of this unit has been designed and mapped against the current CIC National Occupational Standards and the current NVQs at levels 4 and 5. Completion of the learning outcomes will contribute knowledge, understanding and skills towards the evidence requirements of the NVQs.

- See *Annexe B* for summary of mapping information to NVQs.

This unit has also been mapped to illustrate the links to the NQF units.

- See *Annexe D* for summary of mapping information to NQF units.

Essential requirements

Learners require access to appropriate IT, library and internet resources, case study material and, where possible, examples of actual organisations in various sectors of the industry using different types of contract/procurement arrangements.

It is essential that a culture of health and safety is embedded in all the units to ensure that the learners understand the importance and relevance of health and safety issues. Therefore there should be clearly signposted aspects of current legislation and health, safety and welfare implications throughout the delivery and assessment of this unit.

Employer engagement and vocational contexts

Tutors should organise site visits, for example to local construction sites, to help learners understand the application of management techniques within design and construction processes. To ensure site visits are successful tutors should outline the aims and objectives of the visits and conduct preparatory briefings. Tutors should organise presentations by visiting speakers, for example representatives from local firms detailing how the sector operates in terms of its structures and activities, or methods of procurement, contracting and other practices used within the construction and built environment sector. Tutors should use real-life case studies, based on site visits, for part of the assessment for this unit.