



**DRAFT MINIMUM QUALIFICATION
REQUIREMENTS**

**FOUNDATION
QUALIFICATION IN
CONSTRUCTION AND THE
BUILT ENVIRONMENT**

Foundation Qualification in Construction and the Built Environment (tentative title) (540 Guided Learning Hours)

Purpose

The Foundation Qualification in Construction and the Built Environment is proposed to be a level 2 post-16 qualification that offers learners a broad introduction to the sector, developing their knowledge and understanding of the sector, the built environment life cycle, the trades and roles within it and the interdependencies between people performing those roles.

This qualification will develop learners' skills in at least two trades and in planning, performing and evaluating common tasks in these trade areas. Learners taking this qualification will develop their ability to perform these tasks in ways that promote and sustain their own health and safety and that of others, and will also develop transferable employability skills that will be relevant to their future work, whether in the construction and built environment sector or any other sector.

The qualification will ensure that a learner beginning their journey to employment in this sector will have a broad, cross-cutting understanding of the sector and be able to make informed decisions about their own development. It may be taken as a full-time, one-year programme of learning; as a part-time programme of learning as a fundamental part of an Apprenticeship framework; or for site operatives who want to widen their knowledge, understanding and skills in the sector more generally.

Proposed aims and objectives

The specification for the Foundation Qualification in Construction and the Built Environment must enable learners to develop their:

- Understanding of the buildings and structures that constitute the built environment and how they change, and have changed, over time;
- Understanding of the trades, roles and careers in the construction and built environment sector;
- Understanding of the life cycle of buildings and structures in the built environment and the associated principles and processes at each stage;
- Employability skills and their understanding of how these are relevant to, and important in, the workplace in the construction and built environment sector;
- Their knowledge of and ability to abide by the health and safety requirements of working on sites, with equipment and with others;
- Their basic skills in, and knowledge of, at least two trades within the construction and built environment sector;
- Their skills in planning, performing and evaluating practical tasks related to at least two trades within the construction and built environment sector.

Proposed subject content

The awarding body must ensure the content of each learning area below is covered in the specification for the qualification.

Learning Area 1: Introduction to the Built Environment

Learning Area 2: Introduction to the Trades in the Construction and the Built Environment Sector

Learning Area 3: Introduction to the Built Environment Life Cycle

Learning Area 4: Employability in the Construction and the Built Environment Sector

Learning Area 5: Maintaining Health, Safety and the Environment in the Construction and the Built Environment Sector

Learning Area 6: Introduction to Emerging Technologies in the Construction and the Built Environment Sector

Learning Area 7: First Trade Experience in the Construction and Built Environment Sector

Learning Area 8: Second Trade Experience in the Construction and Built Environment Sector

Learning Areas 1 – 6

In Learning Areas 1 to 6, the specification for the Foundation Qualification in Construction and the Built Environment must require learners to develop their knowledge, skills and understanding in, but not be limited to, the following areas:

Learning Area	Topic	Content – including, but not limited to:
1. Introduction to the Built Environment	a. The types and purposes of buildings in the built environment	<ol style="list-style-type: none">i. The main types of domestic dwellings and their purposes.ii. The definition of heritage and traditional (pre-1919) buildings and key design areas and changes over time.iii. The main types of commercial and industrial buildings and their purposes.iv. The main design changes over time to commercial and industrial buildings.v. The main types of public buildings and their purposes.vi. The main design changes over time to public buildings.
	b. The types and purposes of structures in the built environment	<p>The main types of infrastructure and their purpose:</p> <ul style="list-style-type: none">• Highways• Bridges• Tunnels• Towers• Transport networks• Services distribution• Flood and coastal defences.

2. Introduction to the Trades in the Construction and Built Environment Sector	a. The main construction trades	<ul style="list-style-type: none"> • Trowel occupations • Wood occupations • Plastering • Decorative finishing and industrial painting occupations • Accessing operations and rigging • Roofing occupations • Construction and civil engineering operations
	b. The main building services engineering trades	<ul style="list-style-type: none"> • Electrotechnical installations • Plumbing • Gas installation engineering • Heating and ventilation • Refrigeration and air conditioning.
	c. The interdependencies between trades	The interdependencies of all trades within the construction and the built environment sector.
	d. The traditional skills in the construction and built environment sector	<ol style="list-style-type: none"> i. The main traditional skills used in traditional and heritage. ii. The key differences between the main traditional and current techniques in each skill. iii. Appropriate and inappropriate materials for use in traditional and historic buildings and structures. iv. Unsuitable changes to make to traditional buildings when installing modern facilities.

<p>3. Introduction to The Built Environment Life Cycle</p>	<p>a. The design of buildings and structures</p>	<p>i. The purposes of surveying. ii. The basic principles of surveying (chain surveying, plane table surveying, compass surveying, etc.). iii. The main equipment used in surveying (theodolites, compasses, geometric equipment, etc.).</p>
		<p>iv. The main environmental principles and their importance: precautionary, preventative, rectified at source, integration, polluter pays, etc.</p>
		<p>v. Ecological considerations principles. vi. Primary protected species (birds, bats, fauna, flora, newts, etc.).</p>
		<p>vii. Societal requirements for accessible, practical, safe and secure communities.</p>
		<p>viii. The main cultural requirements for different buildings and structures.</p>
		<p>ix. The key principles of aesthetic design.</p>
		<p>x. The main principles of sustainability. xi. The importance of sustainable practice in the construction and built environment sector. xii. The impact of sustainable and unsustainable practices. xiii. Designing waste out of projects.</p>
		<p>xiv. Simple building and structural plans and schematics. xv. Uses of number and geometrical skills in plans and schematics.</p>

		<ul style="list-style-type: none"> xvi. The basic principles of BIM. xvii. The basic uses and applications of BIM in construction and built environment projects.
	b. The planning process	<ul style="list-style-type: none"> i. Primary planning legislation and regulations that affect construction and building services engineering projects. ii. Possible courses of action and consequences for breaching legislation and regulations.
		<ul style="list-style-type: none"> iii. Heritage listing. iv. The factors entailed in heritage and traditional (pre-1919) listing (conservation areas, buildings, monuments, scheduling, that listing is only identification, the hidden features included, etc.). v. Possible courses of action and consequences for breaching protocols associated with such listing and practice.
	c. The main stages of construction and the installation of services	Typical sequences (groundwork to roofing, commissioning, pressure testing, snagging, etc.).
	d. Marketing and selling services in the construction and built environment sector	<ul style="list-style-type: none"> i. Traditional and current techniques for marketing (advertisements, social media, etc.). ii. The impact of consistent sales on profitability of projects and businesses.
	e. The maintenance of buildings, structures and installed services	<ul style="list-style-type: none"> i. The purposes of servicing and maintenance to extend serviceable life, prevent breakdowns and loss of effectiveness and to maintain safety and security. ii. Typical servicing and maintenance types and schedules for different buildings, structures and services.

		<ul style="list-style-type: none"> iii. The main repairs carried out by different tradespeople in the construction and built environment sector. iv. The ways in which buildings, structures and installed services can be and are adapted over their useable life.
	f. Demolition and deconstruction of buildings and structures	<ul style="list-style-type: none"> i. The main requirements in decommissioning (disconnection from services, safety, security, etc.). ii. The types of demolition. iii. Appropriate methods of demolition for different types of building and structure. iv. Risks associated with demolition and risk mitigation. v. Requirements and reasons for waste removal and recycling. vi. The main stages involved in removing demolition waste.
	g. Repurposing of buildings and structures	<ul style="list-style-type: none"> i. Repurposing and reinstatement of different buildings and structures. ii. Common examples of repurposing (redevelopment of old industrial buildings into dwellings, refurbishing bridges and tunnels for active travel purposes etc.). iii. Importance and benefits of recycling and reuse. iv. Reuse of traditional and historic materials.

4. Employability in the Construction and Built Environment Sector	a. Employment and opportunities	<ul style="list-style-type: none"> i. Job roles, career paths and types of employment opportunity in the sector. ii. Patterns in employment and rises and falls in demand. iii. The types of vacancies most available in the sector. iv. Finding current job opportunities and apprenticeship vacancies in the sector.
	b. Employability skills	<ul style="list-style-type: none"> i. Work ethics. ii. Behaviours. iii. Problem solving in different contexts. iv. Team working and interpersonal skills. v. Flexibility. vi. Considerate construction.
	c. The basic economics of business	<ul style="list-style-type: none"> i. Basic profit and loss. ii. Consequences of loss of profits on businesses. iii. Main business needs. iv. The importance of quality on reputation and business. v. The importance of customers and customer service. vi. Benefits of productivity and efficiency.

5. Maintaining Health, Safety and the Environment in Construction and Building Services Engineering	a. The key requirements for working safely on sites.	<ul style="list-style-type: none"> i. This area should incorporate the specifications in the 'Health & Safety in a Construction Environment'. ii. The key requirements for site safety. iii. The main dangers, hazards and risks, for example working at height, working at depth, working in confined spaces, working with or around electrical and / or gas installations gas, contamination, etc. iv. The criteria for considerate construction and ensuring wider safety v. The main techniques of identification, isolation, protection, commissioning and decommissioning of services.
	b. The techniques and support available to stay well at work.	<ul style="list-style-type: none"> i. The importance of maintaining own wellbeing and seeking support when required. ii. The support available for mental health and other problems that may affect own and others wellbeing. iii. Who to approach at work when facing problems that are affecting or may affect own or others wellbeing. iv. Anti-bullying policies and what to do if experiencing difficulties.
	c. The key requirements for protecting the environment whilst working on sites.	<ul style="list-style-type: none"> i. This area should incorporate the specifications in the 'Health & Safety in a Construction Environment'. ii. The key requirements for protecting the environment. iii. The main dangers, hazards and risks (when using harmful materials, etc.). iv. The main techniques for waste disposal and potential consequences of breaching regulations that protect the environment, etc.

6. Introduction to Emerging Technologies in the Construction and Built Environment Sector	The basic principles and use of Building Information Modelling (BIM).	<ul style="list-style-type: none"> i. The basic principles of BIM, (process, collaboration, whole life, 3D and 4D data, etc.). ii. The use of BIM in the construction and built environment sector (planning, designing, constructing, and managing buildings and infrastructure, etc.).
	3D printing	The use of 3D printing in the construction and built environment sector (planning, designing, constructing models, etc.).
	Prefabrication and modular construction	The use of prefabrication and modular construction in construction and building services engineering.
	Virtual reality (VR)	The use of VR in the construction and built environment sector.
	The evolving nature of materials technology	Key developments in materials technology used in the construction and built environment sector (e.g. self-healing asphalt, liquid roofing, single ply roofing, metalwork, etc.).

Learning Area 7

In Learning Area 7, the specification for the Foundation Qualification in Construction and the Built Environment must require learners to select **one** of the following trade areas:

1. Trowel occupations
2. Wood occupations
3. Decorative finishing and industrial painting occupations
4. Plastering
5. Domestic plumbing and heating
6. Accessing operations and rigging
7. Roofing occupations
8. Heating and ventilating occupations
9. Installing electrotechnical systems and equipment
10. Construction operations and civil engineering services

and develop their knowledge and understanding of and skills in:

- i. The underlying principles that guide the work of tradespeople in this area;
- ii. The trade-specific terminology associated with the trade area;
- iii. The requirements for performing common tasks in the trade area;
- iv. Carrying out common tasks in this trade area;
- v. Using the correct tools, materials and technologies commonly required in this trade area;
- vi. Performing tasks in a way that promotes their own health and safety and that of others;
- vii. Reading and interpreting common plans and documentation required in performing common tasks in this trade area;
- viii. Planning the completion of common tasks in this trade area, using the required literacy and numeracy skills to do so;
- ix. Setting performance criteria for their completion of common tasks in this trade area;
- x. Evaluating the performance of their work in carrying out common tasks in this trade area both in relation to the set requirements and their own success criteria.

Learning Area 8

In Learning Area 8, the specification for the Foundation Qualification in Construction and the Built Environment must require learners to select **one** of the following trade areas (which must not be the same as the specific route taken within the trade selected in Learning Area 7, e.g. a learner may have studied wheelwrighting within wood occupations in Learning Area 7 so may study pre-assembled roof structure installation under wood occupations in Learning Area 8 because they are significantly different):

1. Trowel occupations
2. Wood occupations
3. Decorative finishing and industrial painting occupations
4. Plastering
5. Domestic plumbing and heating
6. Accessing operations and rigging
7. Roofing occupations
8. Heating and ventilating occupations
9. Installing electrotechnical systems and equipment
10. Construction operations and civil engineering services

and develop their knowledge and understanding of and skills in:

- i. The underlying principles that guide the work of tradespeople in this area;
- ii. The trade-specific terminology associated with the trade area;
- iii. The requirements for performing common tasks in the trade area;
- iv. Carrying out common tasks in this trade area;
- v. Using the correct tools, materials and technologies commonly required in this trade area;
- vi. Performing tasks in a way that promotes their own health and safety and that of others;
- vii. Reading and interpreting common plans and documentation required in performing common tasks in this trade area;
- viii. Planning the completion of common tasks in this trade area, using the required literacy and numeracy skills to do so;
- ix. Setting performance criteria for their completion of common tasks in this trade area;
- x. Evaluating the performance of their work in carrying out common tasks in this trade area both in relation to the set requirements and their own success criteria.

Proposed assessment objectives

The assessment of the knowledge, skills and understanding required in the specification must target the following assessment objectives in line with the indicated weightings:

AO	DESCRIPTION	WEIGHTING (+/-5%)
AO1	Demonstrate knowledge and understanding of the construction and built environment sector, and the roles, skills and principles involved in its design, construction, use and maintenance.	40%
AO2	Apply, skills, knowledge and understanding of the built environment in responding to a set brief.	40%
AO3	Reflect on and evaluate the skills, knowledge and understanding demonstrated in practical work.	20%

Proposed scheme of assessment

The specification for the Foundation Qualification in Construction and the Built Environment must ensure that learners undertake three assessments.

The specification must demonstrate that the scheme of assessment balances the considerations of manageability, engagement, reliability and validity. The specifications must ensure that:

- the assessment arrangements are, overall, manageable for both centres and learners;
- the assessment arrangements are, overall, sufficiently engaging for learners and promote and sustain learners' interest in the subject area;
- the assessment arrangements will ensure the reliability of assessment outcomes, at centre and national level and over time;
- the assessment arrangements are a valid form of assessment for the skills, knowledge and understanding being assessed.

The specification must require that learners are graded at either Pass, Merit, Distinction or Fail, and that they achieve at least a Pass grade in each assessment component to be awarded an overall mark.

Assessment	Requirements	Size and Minimum Coverage
<p>On-screen assessment (F1) (20% overall weighting)</p> <p><i>External assessment.</i></p>	<ul style="list-style-type: none"> • Must be taken under a high level of control without access to reference material; • Must be of a multiple-choice format, incorporating a range of question styles; • Must use enhancements such as audio-visual stimulus material. 	<p>Must sample the knowledge and understanding required in Learning Areas 1 to 6.</p> <p>AO1 AO2</p>
<p>Practical project (60% overall weighting)</p> <p><i>To be internally assessed and subject to external verification.</i></p>	<ul style="list-style-type: none"> • Must require learners to undertake one or more practical projects in a simulated setting and from which tangible outcomes are produced; • Skills demonstrated must be based on those chosen in Learning Areas 7 and 8; • May require learners to undertake: <ul style="list-style-type: none"> ○ Two projects based on trade choices from Learning Areas 7 and 8, totalling 60 Guided Learning Hours (GLH); or ○ One holistic project combining trade choices from Learning Areas 7 and 8, totalling 60 GLH; • Must include planning, practical and evaluation stages of the project; • Must require learners to demonstrate softer and wider skills and knowledge covered in Learning Areas 4 and 5. 	<ul style="list-style-type: none"> • 60 GLH • Must assess the knowledge, skills and understanding required in Learning Areas 4, 5, 7 and 8. <p>AO1 AO2 AO3</p>
<p>Guided discussion (20% overall weighting)</p>	<ul style="list-style-type: none"> • Must require learners to undertake an internally assessed guided discussion; • Must require centres to provide learners with a range of structured 	<p>Must assess the knowledge, skills and understanding of Learning Areas 2, 7 and 8.</p>

<p><i>To be internally assessed and subject to external verification.</i></p>	<p>questions or talking points in advance of the discussion;</p> <ul style="list-style-type: none"> • Must require learners to reflect on the skills, knowledge and understanding of Learning Areas 7 and 8 in relation to their practical projects, the dependencies with other trades and evaluate the quality of their outcomes; • Must be of a specified duration. 	<p>A01 A03</p>
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Additional content from other learning areas may be assessed in the methods described above, as deemed suitable.

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