



**DRAFT MINIMUM QUALIFICATION  
REQUIREMENTS**

**PROGRESSION  
QUALIFICATION IN  
BUILDING SERVICES  
ENGINEERING**

## **Progression Qualification in Building Services Engineering (540 Guided Learning Hours)**

### **Purpose**

The Progression Qualification in Building Services Engineering is proposed to be a level 2 post-16 qualification. The qualification will develop learners' transferable employability skills and wider knowledge of a building services engineering trade. Learners will choose a trade specialism in the building services engineering sector and begin to develop their knowledge, skills and understanding contained in the relevant occupational standards for that trade. This may be a trade they have previously studied (on the Foundation Qualification in Construction and the Built Environment) or one which they are studying for the first time. The qualification is designed for learners following a full time one-year programme of learning but may also be delivered on a part-time basis.

Learners taking the qualification may:

- Progress onto an Apprenticeship to develop a trade
- Progress directly into employment in a building services engineering-related area
- Use the qualification as part of an on-the-job training or education scheme.

### **Proposed aims and objectives**

The specification for the Progression Qualification in Building Services Engineering must enable learners to develop their:

- Understanding of the role of aspects of employment in the building services engineering sector;
- Employability skills and understanding of how these are relevant to contemporary practice in a chosen building services engineering trade;
- Their knowledge of and ability to abide by the health and safety requirements of working on sites, with equipment and with others, when working in a chosen building services engineering trade;
- Understanding of the types of work and projects undertaken in a chosen building services engineering trade, and the interdependencies of this work with work by other tradespeople, at the design, installation, use and maintenance stages;
- Understanding of the tools, techniques, materials and technologies used in a chosen building services engineering trade and of how they change, and have changed, over time;
- Knowledge and understanding required in a chosen trade route at level 2, as set out in the relevant national standards;

- Practical skills in carrying out a wide range of tasks in a chosen building services engineering trade and in response to set briefs;
- Ability to effectively plan and evaluate their performance in carrying out a wide range of tasks in a chosen building services engineering trade.

### **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:** Employment and Employability in the Building Services Engineering Sector

**Learning Area 2:** Changing Practices over Time

**Learning Area 3:** Knowledge and Understanding of a Building Services Engineering Trade

**Learning Area 4:** Skills in a Building Services Engineering Trade

<b>Learning Area</b>	<b>Topic</b>	<b>Content – including, but not limited to:</b>
1. Employment and Employability in the Building Services Engineering Sector  <i>N.B.: This should be taught in both generic ways and in relation to the trade selected for study in Learning Area 3.</i>	a. Self-employment in the building services engineering sector	The meaning of 'self-employment', the advantages and disadvantages it offers to individuals and the responsibilities of self-employed people.
	b. Trade bodies, organisations and registrations	<ul style="list-style-type: none"> <li>• The role of building services engineering industry trade bodies and of representation</li> <li>• The role of industry certification schemes and the types of registration available.</li> </ul>
	c. Calculating costs and resource requirements in the building services engineering sector	The calculations required for: <ul style="list-style-type: none"> <li>• estimating jobs;</li> <li>• identifying resource requirements;</li> <li>• identifying the requirements for hours.</li> </ul>
	d. Inter- and intra-personal skills	<ul style="list-style-type: none"> <li>• The importance of effective and appropriate communication with team members, with senior personnel, with members of the public and in responding to employment opportunities.</li> <li>• The importance of emotional intelligence in effective communication.</li> <li>• Planning and managing own time.</li> <li>• Reflecting on practice and evaluating strengths and weaknesses.</li> <li>• Setting targets and success criteria.</li> </ul>
	e. Problem solving	<ul style="list-style-type: none"> <li>• Identifying issues.</li> <li>• Identifying possible solutions.</li> <li>• Testing and evaluating solutions.</li> </ul>

<p>2. Changing Practices over Time</p> <p><i>N.B.: This content should be taught in the context of the chosen trade route in Learning Area 3.</i></p>	<p>a. Materials, tools and techniques</p>	<ul style="list-style-type: none"> <li>• The tools, materials and techniques that have been used in this building services engineering trade on traditional (pre-1919) builds.</li> <li>• The tools, materials and techniques being used in contemporary practice in this building services engineering trade.</li> <li>• New and emerging technologies in this building services engineering trade and the impact they are having/may have on existing practice.</li> </ul>
	<p>b. Trade scope</p>	<p>The interdependencies on practice in this trade from workers in other trades and disciplines.</p>
	<p>c. Trades and the environment</p>	<ul style="list-style-type: none"> <li>• The principles of sustainability that apply to practice in this trade.</li> <li>• The changing environmental impact of practice in this trade, including the changing use of materials (where appropriate).</li> <li>• The relevant waste disposal, waste reduction and recycling principles relevant to practice in this trade.</li> </ul>

### Learning Area 3

In Learning Area 3, the specification must allow learners to select one of the following trade areas for study throughout the qualification:

1. Domestic plumbing and heating
2. Heating and ventilating occupations
3. Installing electrotechnical systems and equipment

and must require learners to develop their **knowledge and understanding** of practice in this trade area.

The specification must require learners to develop their knowledge and understanding of a wide range of content from the national standards for a chosen trade that supports the development of their skills in Learning Area 4.

*Alternatively, the specification may allow learners to select a building services engineering trade not featured in the above list, where relevant national standards exist.*

## Learning Area 4

In Learning Area 4, the specification must require learners to continue to study the trade selected in Learning Area 3. It must require learners to develop their knowledge and understanding of and skills in:

- i. The principles that guide the work of practice in this trade area;
- ii. The trade-specific terminology associated with the trade area;
- iii. The requirements for performing a wide range of tasks in this trade area, including in the installation and maintenance stages;
- iv. Carrying out a wide range of tasks in this trade area;
- v. Using the correct tools, materials, techniques and technologies required to complete a wide range of tasks in this area;
- vi. Using the correct tools, materials, techniques and technologies required to complete tasks associated in the context of traditional (pre-1919) buildings and structures in this trade area;
- vii. Perform a wide range of tasks in ways that promote their own health and safety and that of others;
- viii. Reading and interpreting plans and documentation required in performing a wide range of tasks in this trade area;
- ix. Planning the completion of a wide range of tasks in this trade area, using the required literacy and numeracy skills to do so;
- x. Using the principles of BIM technologies at different stages of a range of tasks;
- xi. Setting performance criteria for their completion of a wide range of tasks in this trade area;
- xii. Evaluating the performance of their work in carrying out a wide range of 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:

<b>AO</b>	<b>DESCRIPTION</b>	<b>WEIGHTING</b>
<b>AO1</b>	Demonstrate the knowledge and understanding required in a building services engineering trade in Wales and the UK.	35-45%
<b>AO2</b>	Apply the knowledge, skills and understanding required to perform a building services engineering trade.	35-45%
<b>AO3</b>	Reflect on and evaluate the skills, knowledge and understanding demonstrated in practical work.	15-25%

### Proposed scheme of assessment

The specification for the Progression Qualification in Building Services Engineering 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 coverage
<p><b>On-screen assessment (B2) (20% of overall weighting)</b></p> <p><i>To be externally assessed.</i></p>	<ul style="list-style-type: none"> <li>• Must require a high level of control, without access to reference material;</li> <li>• Must be of a multiple-choice format, incorporating a range of question styles;</li> <li>• Must use enhancements such as audio-visual stimulus material.</li> </ul> <p><i>This assessment must also be recognised as the B2 assessment in the Apprenticeship Qualification in Building Services Engineering for learners studying the same trade.</i></p>	<p>Must sample the knowledge and understanding required in Learning Areas 1b, 2 and 3.</p> <p><b>AO1</b> <b>AO2</b></p>
<p><b>Practical project (60% of overall weighting)</b></p> <p><i>To be internally assess and externally verified.</i></p>	<ul style="list-style-type: none"> <li>• Must require learners to undertake one or more practical projects, from which tangible outcomes are produced;</li> <li>• Trade skills demonstrated must be based on the trade chosen in Learning Area 3;</li> <li>• May require learners to undertake:               <ul style="list-style-type: none"> <li>○ Two or more projects based on the trade choice from Learning Area 4 totalling 60 Guided Learning Hours (GLH); or</li> <li>○ One larger project based on the trade choice in Learning Area 4 taking 60 GLH;</li> </ul> </li> <li>• Must be different to any practical projects undertaken by the learner in his/her Foundation Qualification in Construction and the Built Environment;</li> <li>• Must include planning, practical and evaluation stages of the project;</li> <li>• Must require learners to demonstrate softer and wider skills and knowledge from Learning Area 1.</li> </ul>	<ul style="list-style-type: none"> <li>• 60 GLH;</li> <li>• Learning Areas 1c, 1d and 1e.</li> <li>• Must sample the knowledge and understanding required in Learning Area 3.</li> <li>• Must assess the knowledge, skills and understanding required in Learning Area 4.</li> </ul> <p><b>AO1</b> <b>AO2</b> <b>AO3</b></p>
<p><b>Oral discussion</b></p>	<ul style="list-style-type: none"> <li>• Must require learners to undertake an internally assessed oral discussion;</li> </ul>	<p>Must assess the knowledge, skills</p>

<p><b>(20% of overall weighting)</b></p> <p><i>To be internally assess and externally verified.</i></p>	<ul style="list-style-type: none"> <li>• Must require learners to reflect on the skills, knowledge and understanding of Learning Areas 3 and 4 in relation to their practical projects and evaluate the quality of the outcomes;</li> <li>• Must require learners to reflect on the skills, knowledge and understanding of Learning Area 1a and 1d;</li> <li>• Must be of a specified duration.</li> </ul>	<p>and understanding of Learning Areas 1a, 1d, 3 and 4.</p> <p><b>AO1</b> <b>AO3</b></p>
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*Additional content from other units may be assessed in the methods described above, as deemed suitable.*

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