Overview of the role

Maintenance and repair of building services, such as: ventilation, heating, water supply.

Details of standard

1. Occupation

Building Services Engineering Service and Maintenance Engineer

Knowledge	Understand what is required to undertake building services engineering planned preventative maintenance and rectification activities within buildings including:
Working Safely	• Relevant safety legislation and safe working practices applying to themselves and others.
Working Sustainably	• Scientific principles underpinning building services engineering industrial and commercial systems including measurement, force and pressure, heat and power, materials and electricity. • Environmental protection measures within building services engineering for effective use of material resources, minimising wastage, legislation surrounding the effective use of energy, gas and water resources.
Planning and Preparing	• How to; utilise resources effectively including the roles and responsibilities of relevant people; ensure the correct tools, materials and equipment are available; produce risk assessments and method statements. • How to plan work programmes, the importance of working within contract requirements and how to complete the necessary reports. • The preparation requirements, including consulting with clients and making them aware of any impact work will have on the system, the buildings use, and how long it is likely to take.
Undertaking Planned and Reactive Maintenance	• The procedures, process, standards, specifications and codes of practice required. • The design principles, layout, and operating principles, installation, decommissioning, fault finding, fault diagnosis, component replacement, testing and re-commissioning techniques for industrial and commercial ventilating, heating, water supply, waste (effluent discharge), drainage, systems and related electrical systems. • How to adjust building management systems set points, time schedules and temperatures. • The principles and requirements of industrial and commercial mechanical sustainable energy systems.

2. Occupational profile

Building Services Engineering makes buildings work. Service and Maintenance Engineers play a key role in planning and completing a range of maintenance work encompassing industrial and commercial building services engineering systems such as ventilating, heating, water supply, waste (effluent discharge) and drainage. This includes related electrical isolation, disconnection, reconnection and reactivation. They also complete planned preventative maintenance and undertake any required remedial repairs. In addition, they monitor and manage the operation of plant and equipment through building and energy management systems.

They ensure these systems continue to operate to their design specification. They undertake work with a high level of autonomy and require highly developed diagnostic skills, detailed knowledge of system operating principles and the ability to take responsibility for fault finding, fault diagnosis, repair and maintenance of systems, components and equipment found in industrial and commercial buildings like office blocks, shopping centres, hotels, factories, schools and hospitals.

Dealing with clients is an important aspect of Service and Maintenance Engineers work, to ensure maintenance activities are undertaken with minimum down time and impact on the buildings use.

They are able to demonstrate competence in the health and safety, communication, quality control and environmental requirements appropriate to their scope of work.

Service and Maintenance Engineers are able to work within occupied and unoccupied buildings and facilities on their own, proficiently and without supervision, in the most appropriate, efficient and economical manner. They must adhere to safe working practices without endangering themselves or others.

3. Requirements: Knowledge, Skills and Behaviours

Skills	**Undertake building services engineering planned preventative maintenance and rectification activities within buildings by:**
Working Safely	• Applying relevant safety legislation, codes of practice and safe working practices to themselves and others.
Planning, Preparing and Working Sustainably	○ Planning, organising and undertaking activities in ways which use resources effectively to complete work, with consideration for cost, quality, time, safety, security and environmental impact, within relevant legislative requirements, specifications, codes of practice and industry recognised practices. ○ Preparing work areas ensuring safe access and egress for self and others is maintained; components, tools and equipment are stored and positioned safely and to allow efficient workflow.
Undertaking and Finishing Planned and Reactive Maintenance	▪ Carrying out fault finding, fault diagnosis, de-commissioning, component replacement, testing and re-commissioning of existing

industrial and commercial ventilating, heating, water supply, waste (effluent discharge), drainage, and related electrical systems.

- Providing the client and contract supervisor with options for repairs, replacements and improvements; and the likely impact, cost and timescales for any work required that is additional to the specification or contract.
- Finishing maintenance activities by; notifying the client of the work undertaken, completing the necessary reports and contract related processes and procedures; explaining and demonstrating how to operate the system in the most energy efficient way

Behaviours	**Undertake building services engineering planned preventative maintenance and rectification activities within buildings by:**
Communicating Effectively	• Using oral, written and electronic methods to communicate technical and other information effectively with work colleagues, clients, service centre, contract supervisors, and other members of the service and facilities team.
	• Working reliably and effectively without supervision, to the appropriate specifications, codes of practice and be aware of the needs and concerns of others, especially where related to diversity and equality.
Working Effectively and Efficiently	• Solving problems within their own scope of responsibility, by applying technical and behavioural skills and knowledge to define the problem, identify, evaluate and select alternatives and implement solutions.
Taking Responsibility	• Accepting responsibility for their own work and actions.
Managing Tasks	• Accepting, prioritising and undertaking technical and other tasks effectively.
	• Working effectively with colleagues, the public, clients, service centre, contract supervisors, and other members of the service and facilities team.
	• Managing client relationships to ensure their expectations match the agreed service level and any shortfalls or changes in service level are effectively communicated together with any credible solutions.
Working with Others	• Supporting the learning and development of others through activities such as mentoring, and sharing professional expertise and knowledge.
Continuing Personal Development	• Maintaining and enhance competence in own area.
	• Exercising responsibilities in an ethical manner
Working Ethically	• Promoting the image of the business to others

- Providing feedback to improve the quality and effectiveness of business products and services

4. Duration

It is unlikely that individuals entering this apprenticeship without previous experience will complete the apprenticeship in less than 36 months, and a typical completion time is likely to be 48 months.

5. Qualifications

Individual employers will identify any relevant entry requirements in terms of previous qualifications, trainability tests, or other criteria. Apprentices without level 2 English and maths will need to achieve this level prior to the completion of their Apprenticeship.

6. Level

This is a level 3 Apprenticeship