GroupHorizon
LIGHTING UP YOUR FUTURE

Building Energy Management Systems (BEMS) Controls Engineer Apprenticeship

Developing building controls engineers to meet the global commitment to reduce energy consumption and increase efficiency through effective control of building plant.

About this programme

Commercial buildings represent one of the largest capital expenses for businesses, and building owners and managers are constantly looking for ways to make the building more efficient and sustainable – and that is where Building Energy Management Systems (BEMS) play a fundamental role.

Through real time control of the building's plant such as HVAC, lighting and power systems, BEMS keep the building running efficiently, ensuring that all of the building services are integrated to operate in the most effective manner.

The challenge for the BEMS Controls Engineer is knowing how to achieve this level of efficiency. Building Controls is a fast growing market with numerous opportunities for skilled engineers and this Apprenticeship will address an industry wide shortage of BEMS Controls Engineers who will use the skills they learn today to keep the buildings of tomorrow running efficiently.

Location and duration of training

This training programme will be delivered on the apprentice's company site and through classroom and/or online learning sessions. It can take up to 36 months to complete.

Apprenticeships

Qualifications included

On successful completion of the programme, individuals will receive the following:

- Building Energy Management Systems (BEMS) Controls Engineer Apprenticeship at level 4

On completion of specific Building Controls Industry Association (BCIA) technical course modules individuals will receive the following:

- Building Controls Industry Association (BCIA) Technical Certificate
- Building Controls Industry Association (BCIA) Advanced Technical Certificate

Individuals will also be eligible to apply for an Electrotechnical Certification Scheme (ECS) Building Controls card at Associate or Integrator Level (depending on level of experience).

Course Content

This Apprenticeship offers a balance of technical training and on the job assessments to match the needs and requirements of the apprentice's employer. The knowledge and assessment units include:

1. Controls Hardware and Logic: Apprentices will gain knowledge and will then be required to select, install, configure and update control hardware platforms from manufacturers in the UK Market.
2. Field Devices: Apprentices will be required to understand the principles behind control and performance of sensors, valves, actuators, dampers, variable speed drives, switches and relays.
3. Networking: Apprentices will be required to design, install, maintain and fault find different types of networks along with more specialist sub-networks.
4. Communication Protocols: Apprentices will be trained to a high level in the common open standard protocols in widespread use within the BEMS industry.
5. Supervisor Software: Apprentices will gain a knowledge of the construction of graphics, creation of user accounts, alarm management and schedule management.

Course Structure

Throughout the Apprenticeship learners will be required to attend a series of classroom and/or online sessions covering the technical theory which is included in the Building Controls Industry Association (BCIA) technical course modules BCM00 – BCM15. Learners will also be required to attend functional skills elements of the course (including Maths and English where required). These sessions will be planned in advance to minimise impact on the day to day business of the employer.

End Point Assessment (EPA)

The End Point Assessment is split into two sections:

1. **Project Report and Presentation with Questioning** - The apprentice will be required to submit an agreed project subject, title and scope to the employer and End Point Assessment Organisation. Apprentices will then prepare a report and deliver a presentation based on the project.
2. **Practical Observation with Questioning** - The apprentice will be observed by an independent assessor completing work in their normal workplace/on site.

For further information please contact Group Horizon

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