



90%

less energy is consumed by engineers learning through online training

85%

fewer emissions are produced per engineer by blended training

Building energy Management Systems (BeMS) are a specialist skill in the field of Heating Ventilating and Air Conditioning (HVAC). It is a fact there is a shortage of basic understanding of these systems.

In a typical commercial building, Heating Ventilation and Air Conditioning consume approximately 40% of the total energy usage. Cooling uses more electricity than any other single energy-consuming device. Heating has a similar story; both of these topics are covered in our eLearning courses **Understanding BeMS Cooling and Understanding BeMS Heating**.

Our courses give you an insight to using your BeMS to maximise efficiency, even modest improvements may yield substantial energy savings and attractive paybacks. Passive or 'natural' cooling can be provided by good ventilation, this removes warm internal air and replaces it with cooler external air.

This strategy is covered in **Understanding BeMS Air Conditioning** and finally **Understanding BeMS Basics** tells us how to measure, manage and control HVAC – normalising some of the jargon around controls and explaining how your BeMS can be set to work.

Online eLearning

If you are a Facility Manager, an Electrical Engineer or someone wishing to find out more, we have developed a module of four basic courses entitled "Understanding BeMS". These cover BeMS Basics, Cooling, Heating and Air Conditioning.

The courses are a plain English introduction to some of the terminology and applications used by BeMS engineers, and BeMS operators.

Each course provides the engineer with a clear concise introduction to the component parts of a Building energy Management System. This includes a commentary on some of the acronyms and vernacular used by controls engineers. Using actual plant schematics, and real-life situations the course culminates a simple test.

Key Benefits

-  Allows engineers to absorb training on their own time, leaving valuable classroom time for more skill-building activities
-  Saves money by reducing the travel and work-stoppage costs
-  CPD Accredited Courses
-  Matches engineer skill level
-  Flexible options on courses - eLearning, Face to Face or Blended
-  Fully customised to suit your organisation's branding
-  Powerful assessment capabilities
-  SCORM Compliant

Face-to-Face Learning

The benefits of **Face-to-Face** Learning are beyond the good lunches! It means engineers can focus, engage with other delegates as well as our facilitator who has over 25 years experience within the Building Controls Industry. It also gives engineers to have a one to one session if any problem arises.

We hold our courses around the country but predominantly in London, hosted at the Ability Projects London Showroom, the facility is 250 yards from the Holloway Road Tube Station.

For between 6 and 12 candidates we can visit your premises and tailor the course's exactly to your needs.



Blended Learning

We also offer a “**blended**” approach to learning. Blended courses are classes where a portion of the traditional face-to-face instruction is replaced by web-based online learning. This approach allows us to cover a great deal in a short amount of time and provides the engineer with an optimised approach to learning by initially accomplishing the online groundwork in preparation for the face-to-face course, which gives them time to reflect with colleagues their findings.

Our **Blended BeMS** courses start with “**PART ONE**”, which provides each engineer with a clear concise introduction to the component parts of a Building energy Management System in an interactive 45-minute eLearning experience. This includes a commentary on some of the acronyms and vernacular used by controls engineers.

PART TWO is where engineers gather to discuss their findings and dive deeper in to the fundamentals of a Building energy Management System. Navigating a building HVAC system with controls applications. Returning to the Energy Managers office looking at what can be achieved by optimising the Building energy Management System supervisor software, including how to better to understand alarms, and the importance of seasonal adjustments.

UNDERSTANDING BeMS LEVEL 1 COURSES

BASICS

FUNDAMENTALS

Building Characteristics
Buildings Loads
Simple Control Theory

CONTROLLERS

Inputs & Outputs
Hardware Platform
The Application

ENERGY CONTROLS

Front End Supervisor
Time Schedules
Optimisation
Weather Compensation

ARCHITECTURE

Communication Protocols
Basic Networks
Internet of Things

HEATING

HOT WATER GENERATION

Heating Pumps & Plant
Solar Power & Biomass Boilers
Combined Heat & Power

HOT WATER DISTRIBUTION

Heating Circuits
District Heating
System Header

ENERGY CONTROLS

Weather Compensation
Boiler Sequencing
Flow Limiting & Boost
Frost Protection & System Alarms

HEATING SYSTEM DEVICES

Valves & Pumps
Sensor Positioning
Control of the Pressurisation Unit

COOLING

CHILLED WATER GENERATION

Refrigerant Law & Cooling Plant
Compression & Absorption Chiller
Variable Refrigeration Flows

CHILLED WATER DISTRIBUTION

Cooling Circuits
Chiller & Cooling Towers
Dry Air Cooling

ENERGY CONTROLS

Identifying Savings
Chilled Water Reset & Sequencing
Extended Draw Down
Relational Control & Set Points

TERMINAL UNITS

Chilled Beams Active & Passive
Split Air Conditioning

AIR CONDITIONING

TO BE DECIDED

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