

## Space Heating and Ventilation Code of Practice

### Introduction

This code of practice has been developed in support of the Aston University Energy and Water Management Policy. The University has set itself a stretch target of 48% carbon emissions reduction by 2020 (from 2005/6 base year) in line with our Aston 2020 University Strategy where sustainability forms one of our eight high level objectives.

The majority of heating and ventilation systems within buildings on campus are controlled and monitored by a Building Energy Management System (BEMS), which is programmed by Estates & Capital Developments (E&CD) to operate flexible heating and ventilation time periods to match different occupancy patterns. Outside of core occupation times, all buildings default to a frost and condensation control temperature or an out of hour's schedule.

Control and monitoring of heating and ventilation is achieved by utilising data from a very large quantity of sensors which are installed into controlled spaces (rooms), duct work and individual systems. Data is continually sent back to a central computer for processing. The BEMS will generate alarms if control parameters are not maintained; these alarms will be investigated by E&CD staff.

The BEMS can be set to record a historical log of various parameters relating to heating and ventilation, and some parameters are recorded routinely. In addition to the BEMS, portable temperature data loggers and other instrumentation are routinely used to record data as required. Heating time schedules are agreed with the principal users of the buildings and represent the best possible balance between the need to provide comfortable working conditions and the requirement to conserve energy and avoid waste.

### Temperature and Time Control in Buildings:

In line with CIBSE recommendations (CIBSE guide A Section 1.3) a building space temperatures are optimised to maintain an average comfort levels of 21°C during University opening hours or 0800 to 1700 Monday to Friday. Exceptions include circulation areas that are set to a minimum 16°C and specialised laboratory.

### Summertime Conditions

In the Main Building a shutdown of heating systems takes place during the summer for potential maintenance and planned works. The actual shutdown date is decided according to local temperatures. However, in all buildings heating systems turn on or off automatically according to outside air temperatures. In most cases this trigger point is set to 16°C.

### Out of Hours Heating

In general, the University does not provide out of hours (weekend/evening) heating for academic and office areas. However, out of hours heating can be requested for the majority of our lecture theatres either via our Event Form [www.aston.ac.uk/about/estates/policies/](http://www.aston.ac.uk/about/estates/policies/) or if booking a space out of hours for academic requirements <http://www.aston.ac.uk/about/estates/how-to/book-a-room/>.

The University does not provide out of hours heating for student societies.

### Heating Complaint Procedure

If an individual is of the opinion that the space temperature is not being maintained as described above then a **request should be made to an individual's line manager**. They need to ascertain if the heating complaint is genuine and if so report it to the Estates Helpdesk.

Someone from the Estates Maintenance Team will take temperature readings of the space and in some cases a temperature data logger will be left to track the room's temperature profile over a longer period of time.

If temperatures are not being met then either a supplementary heater will be provided for a small area i.e. a single office or a number of short term solutions will be implemented, whilst a long term solution is looked at.

These include:

- stopping any draughts from windows;
- bringing the heating on early to the area/ building especially on a Monday; and/or
- increasing the flow rate temperatures to the area/ building.

All of the above will still only be implemented to meet the required average temperature of 21°C.

If the individual is not happy with the outcome they can ask their line manager to escalate the complaint to the Estates Engineering Manager (or the Energy and Sustainability manager in their absence) who will determine the final outcome.

If an individual is requesting a heater due to working out of hours/ weekends, then a heater will not be given unless their line manager can highlight that such work is necessary during these times. Alternative arrangements for individuals who are affected may need to be considered by managers, please contact the Estates Helpdesk for advice.

### **Emergency Cover**

We have a Shift Engineer on site 0600 to 1900 Monday to Friday and can be contacted via the Estates Helpdesk. If there is a heating or

ventilation issue out of these hours please contact the **Security Office in the Main Foyer or on ext 4803.**

The Shift Engineer can turn individual systems on or off as required, in addition they will investigate faults and rectify if possible.

They may be able to offer supplementary heating although this is limited to 2kw convector heaters and would only be appropriate in limited circumstances.

### **Air conditioning**

Generally, the University does not provide air conditioning for comfort cooling only. Air conditioning is only normally approved when abnormal heat loads exist such as high density of computers or specialist equipment which emits heat. In hot, humid conditions comfort can be improved by the use of fans and evaporative coolers. Advice on the use of these items can be obtained from the Estates and Capital Development.

All areas that have air conditioning in terms of cooling should be set to around 23°C as recommended in Carbon Trust and BRE energy guides; this includes all computer rooms and meeting rooms.

It is recommended that departments can purchase cooling fans and evaporative coolers through the Estates Helpdesk, as all electrical appliances require PAT testing.

It should be noted that as cooling fans only provide comfort cooling and do not actually reduce space temperature (in fact they increase space temperature) they should not be left on in a room unoccupied.

*Last reviewed: July 2017*

*Next reviewed: July 2018*