

The Space Temperature Policy for the University of Bristol

This document seeks to clarify the position regarding internal space temperature limits that occupants may be exposed to and highlights relevant legislation.

Reason for a Space Temperature Policy

Energy costs are rising significantly; the University's utility expenditure is now over £9m per year, well over half of which is due to heating, cooling, and air conditioning. Any savings are thus available for our core activities. Much of our research and teaching relates to sustainability, and there is reputational value in trying to reduce the amount of energy we use and carbon dioxide we produce.

Space Temperatures Limits

The Health & Safety Executive (HSE) has stated that it is inappropriate to set and enforce a maximum working temperature because thermal comfort cannot be determined by air temperature alone. The HSE considers 80% of occupants as a reasonable limit for the minimum number of people who should be thermally comfortable in an environment and a risk assessment should be carried out to include thermal comfort if this cannot be met. This seems to concur with general experience that different people can perceive the same space to be more or less thermally comfortable.

Space temperature issues should be routed through them for the appropriate action to be taken.

The final page of this policy gives some factors relating to thermal comfort.

Heating Policy

- The University will endeavour to maintain winter working time space temperatures of between 19°C and 21°C in all its buildings except for areas not used as an office, accommodation or teaching space (i.e. workshops, plant rooms, staircases etc.). The minimum maintained temperature for all work spaces will be no less than the statutory minimum of 16°C.¹
- The heating season generally runs from 1st Oct to 1st May depending on weather conditions.
- For most cases, the University is unable to heat specific offices or floors outside normal operating hours – which for most buildings will be 7am to 7pm, Monday to Friday - or outside the heating season although some areas may have a set-back temperature.
- Heating will be provided in summer as required for examination rooms.

Portable Electric Heater Policy

The use of portable electric heaters is strongly discouraged, for health and safety reasons, and also because of their running costs and environmental impact. If you are consistently cold in your normal place of work, please ask Maintenance Helpdesk to look at options. Where heaters are used they need to be PAT tested.

Cooling Temperatures

For guidance purposes summer peak target temperatures are 26°C for office spaces.

It is understood that some spaces over-heat, particularly in summer. We want to avoid situations where air conditioning is installed to meet relatively rare overheating events, and is then used during

¹ The Workplace (Health, Safety & Welfare) Regulations 1992 and the associated Code of Practice state that: 'During working hours a reasonable internal temperature must be maintained and this must not be less than 16°C unless the work involves severe physical effort in which case the temperature can be lowered to no less than 13°C'.

the rest of the year to cool unnecessarily. There are many instances where such cooling has been found to compete with the heating in Winter.

Air conditioned spaces use around twice as much energy as naturally ventilated. Low energy cooling solutions may be more appropriate than the installation of comfort cooling in many circumstances – the use of fans, open windows, cool drinks and appropriate clothing.

The University will not fund the installation of air conditioning systems unless they are required:

- by regulation or enforceable code of practice
- by specific items of equipment such as server rooms or laboratories
- because natural ventilation alone is insufficient to cool
- because occupants and/or equipment consistently raise the ambient temperature to above 26°C for consistently over a period of a week.

If it is deemed that cooling needs to be installed then Estates will need to agree on the cooling strategy before detailed design begins. All installed cooling equipment should:

- be as energy efficient as possible
- interface with the building management system
- contain refrigerant gases that have zero ozone depletion potential.

These are assessed against our Air Conditioning Agreement.

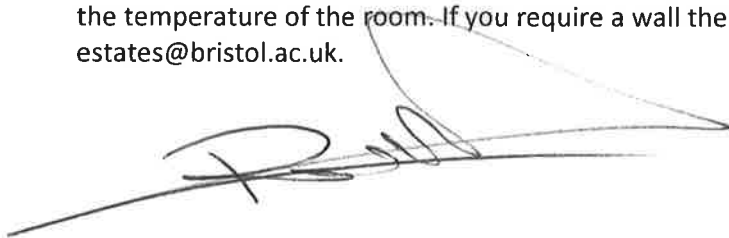
Where air conditioning is already installed, the space temperature should be set no lower than 24°C and the system set to provide cooling only when the space is occupied. All doors and windows of the conditioned space should remain closed and no portable heaters should be in operation to warm up a cooled space. Portable air conditioning units are not permitted for use in University buildings unless they are installed with an extract duct or a facility to remove the heat absorbed away from the area to be cooled. Desk fans may be used if they have been PAT tested.

How you can help to save energy

There are several measures that staff and students can take to limit the extremes of temperature and help to save energy:

- Dress appropriately for the weather, each additional layer can improve comfort by 2-3°C
- Drink hot or cold drinks depending on the conditions.
- Use windows appropriately.
- Make use of window blinds and curtains in hot weather to reduce solar gain.
- Make use of flexible work times where appropriate to avoid extremes of temperature.
- Take regular breaks.
- Site workstations away from heat or cold sources.
- Switch off unnecessary electrical equipment and lighting particularly in summer as these can contribute significantly to heat gains.

Report problems with heating and cooling to the Helpdesk via Maintenance Service Desk on 0117 928 89898, internal 89898 maintenance-service@bristol.ac.uk. When emailing/calling, please note the temperature of the room. If you require a wall thermometer, please email sustainability-estates@bristol.ac.uk.



Patrick Finch, Bursar and Director of Estates, June 2018

Target Temperature Ranges

For information below, these are the target temperature ranges for rooms within the University

	Winter target temperature	Summer target temperature
Computer rooms	19-21°C	<26°C
Conference/board rooms	19-21°C	<26°C
Educational buildings:		
Lecture halls	19-21°C	<26°C
Seminar rooms	19-21°C	<26°C
Teaching spaces	19-21°C	<26°C
General building areas:		
Entrance halls/lobbies	19-21°C	<26°C
Kitchens (commercial)	15-18°C	<28°C
Corridors	16-18°C	<28°C
Toilets	16-18°C	<28°C
Waiting areas/rooms	19-21°C	<26°C
Libraries:		
Lending/reference areas	19-21°C	<26°C
Reading rooms	22-23°C	<26°C
Store areas	15°C	<26°C
Offices:		
Executive	19-21°C	<26°C
General	19-21°C	<26°C
Open-Plan	19-21°C	<26°C
Sports halls:		
Changing rooms	22-24°C	<26°C
Hall	13-16°C	<26°C
Residential rooms	19-21°C when occupied	<26°C

Estates

April 2017

Thermal Comfort

Thermal comfort cannot be easily defined as it depends on a range of environmental and personal factors and perceptions. The British Standard BS EN ISO 7730:2005 defines it as: 'that condition of mind which expresses satisfaction with the thermal environment'. Due to large variations from person to person it is difficult to satisfy everyone within the same thermal environment. The most important environmental factors contributing to thermal comfort are:

- air temperature
- radiant temperature (i.e. the temperature of the walls, floor, windows etc.)
- humidity
- air speed
- the amount of physical activity
- the amount and type of clothing worn

Individual responses also vary depending on:

- perception
- physical fitness
- medications taken
- the body's fluid and salt balance
- acclimatisation

To achieve an acceptable thermal environment, each of these factors must be considered.