

Space Temperature Policy

Objective

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

The University is aware that in some instances, space temperatures in various areas of its buildings can become uncomfortable for the occupants. However, this also has to be balanced against the University's high energy use and the environmental consequences that artificially conditioning spaces can create.

Energy costs are rising significantly the Universities fuel bill is now £1.9 Million a year. There is also widespread concern relating to global warming, climate change and sustainability. The University feels that it is appropriate to produce a policy so building users know what to expect and why there are limitations as to what can be achieved.

An energy management programme is being developed to address the high energy use particularly with regard to electricity use. One of the reasons for the high consumption has been the installation of air conditioning equipment on an ad-hoc basis which has led to a vast number of systems that are not controlled centrally and therefore operate when not required. A longer term cooling strategy is currently being developed but in the interim, measures are required to stem the growth in electricity consumption and alternatives to installing mechanically operated cooling systems need to be explored.

It should be noted that it is the responsibility of local managers for the welfare of their staff and therefore issues regarding space temperatures should be routed through them in order for the appropriate action to be taken.

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.

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.

Heating

The workplace (Health, Safety & Welfare) Regulations 1992 and the associated code of practice states that: 'During working hours a reasonable internal temperature must be maintained and this must not be less than 16oC unless the work involves severe physical effort in which case the temperature can be lowered to no less than 13oC.

Heating Policy

- The University will endeavour to maintain working time space temperatures of between 19 and 21oC in all its buildings with the exception of areas not used as 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 as detailed above.
- The heating season generally runs from September to May depending on weather conditions.
- For the majority of cases, the University is unable to heat specific offices or floors outside normal operating hours although some areas may have a set-back temperature.
- Portable Electric heaters and fires may not be used unless:
 - i) Consent has been given by the Estates Department/Helpdesk, or
 - ii) Consent has been given by the University's maintenance contractor, and
 - iii) That the heaters have been PAT tested and approved to be plugged into specific sockets to avoid overloading of power circuits.

There are limitations with some of the University's heating systems due to their age and layout which may mean that it is not possible to meet the above criteria in some circumstances.

Cooling

Air conditioning spaces use around twice as much energy as naturally ventilated areas and tend to generate more user complaints. In addition, because of the cycle of the academic year, many parts of the buildings are unoccupied over the summer period when peak temperatures occur more frequently so low energy solutions may be more appropriate. For guidance purposes summertime peak design temperatures are 24 +/-3oC for office spaces.

Cooling Policy

As a general rule the University will not fund the installation and running costs of air conditioning systems unless they are required:

- By regulation or enforceable code of practice;
- By specific items of equipment such as server rooms;
- Because natural ventilation is insufficient to remove heat gains and/or provide the necessary changes or air;
- Because occupants and/or equipment consistently raise the ambient temperature to above 28°C for a period of time that is deemed unacceptable.

The use of mechanical ventilation is preferred to full air conditioning. If it is deemed that cooling requires to be installed then the Estates Department will need to agree on the cooling strategy before detailed design begins. All installed cooling equipment should:

- i) Be as energy efficient as possible,
- ii) Interface with the building energy management system, and
- iii) Contain refrigerant gases that have zero ozone depletion potential.

Where air conditioning is already installed, the space temperature should be set no lower than 23°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 an overcooled 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 providing that 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.
- 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.
- Think about saving energy when consuming energy.

	Winter operative temp. range	Summer operative temp. range
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
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

These temperatures are for guidance only.