

Newcastle University - Heating Policy for Academic Buildings

The University aims to provide a comfortable working environment for staff and students, and to comply with Health and Safety requirements while minimising carbon dioxide (CO₂) emissions and costs arising from the operation of heating systems.

Heating Season

During the heating season, which usually starts in September and ends in May, the University aims to maintain internal temperatures in buildings within the range of 19 to 21°C. Lower temperatures may apply in areas where work is non-sedentary in nature or where a process or activity in the space requires a lower temperature. ESS, in liaison with the Faculties and/or the Registrar shall determine start and end dates for the heating season and these will be made available on the ESS website.

Outside of the heating season, should internal space temperatures drop dramatically due to abnormal weather conditions ESS, in liaison with the Faculty and/or Registrar, will actively monitor conditions and consider if the main heating systems should be switched on. The decision making process will balance factors including internal temperatures, availability of heating systems (which are maintained during the summer and are not always available), the weather forecast and cost/environmental impacts. In some mechanically ventilated spaces, heating may be required to control the temperature of air flows at acceptable levels, even if the heating to radiator systems remains off.

Heating Times

The University aims to maintain internal temperatures in buildings within the range of 19 to 21°C during core teaching hours - Monday-Thursday 08:30–18:30, Friday 08:30–17:30. With the agreement of the Registrar, exceptions may apply to facilities such as some research labs, libraries and clusters which operate outside these times.

Heating, Ventilation and Air Conditioning (HVAC) systems in each building are controlled by a sophisticated Building Management System (BMS). The BMS detects both internal and external temperatures and, based on previous performance, calculates the appropriate time to switch systems (boilers, pumps etc.) on in order to achieve the temperature setpoint by the start of the occupancy period. The BMS also performs a range of other functions including frost protection of buildings/plant and switching off radiator systems when external temperatures exceed 16°C

Out of hours heating requests e.g. for evening/weekend events must be made to ESS via ess-helpdesk@ncl.ac.uk in order that the BMS can be programmed. To prevent inefficiency, wherever possible, out of hours use will be restricted to a limited number of buildings.

Thermal Comfort

Human perception of a comfortable temperature is subjective. It is based on a combination of factors including; air temperature; radiant temperature; humidity; individual metabolism and clothing. It is recognised that not everyone will achieve 'thermal comfort' at 19-21°C and it is expected that occupants will moderate their own comfort by dressing appropriately for their preference. Where local heating controls e.g. thermostatic radiator valves are provided, it is expected that occupants will manage these in such a way that internal temperatures reach 19-21°C. Windows and doors should be closed during the heating season.

Health and Safety Legislation

The Workplace (Health Safety and Welfare) Regulations 1992 Approved Code of Practice states that temperature in workrooms should provide reasonable comfort and goes on to specify that this should normally be at least 16°C.

Energy Conservation

Operation of University heating systems causes the annual emission of about 11,000 tonnes of CO₂. Increasing the temperature setpoint by 1°C can cause CO₂ emissions and heating costs to rise by as much as 8%. Our Carbon Management Plan sets a CO₂ reduction target of 43% by 2020.

Electric Heaters

Electric heating is expensive, environmentally damaging due to high CO₂ emissions from power stations, and can pose a significant fire risk.

However, outside the heating season, in circumstances where internal temperatures are shown to be below 19°C for a significant period, temporary heating may be appropriate. Any temporary electric heaters must be Portable Appliance Tested, and should be thermostatically controlled oil-filled radiators. Units must liaise with ESS to ensure that any temporary heating can be operated safely e.g. preventing overloading of local electrical circuits. For safety reasons electric heaters must not be left switched on in unoccupied rooms.

Using electric heating during the heating season adversely affects BMS control of building systems. As thermostats detect high temperatures caused by the heaters, heating to potentially large areas may be shut down, affecting many building users and leading to complaints, inefficiency and high costs.

The use of electric heaters during the heating season is therefore not permitted except in exceptional circumstances e.g. a failure of the main heating systems.

Reporting Heating Faults

All heating faults and issues should be reported to the ESS help desk on 7171 or ess-helpdesk@ncl.ac.uk. Further guidance on heating, including some building-specific guides, is available on the ESS website.

Policy Review

This policy will be reviewed in September 2013.

Dr John Hogan

Registrar

30 November 2012