

Thermal Comfort Policy

A. Natural Cooling Measures

1. General Guidelines

Middlebury College recognizes that thermal comfort is important for both health and productivity of its students, faculty, and staff. During sustained period of high heat and humidity (defined here as two or more consecutive days of outside temperatures above 90° Fahrenheit and relative humidity of over 60%) certain measures may have to be taken to protect the health of students, faculty, and staff as well as to create a minimum thermal comfort that enables the campus community to work effectively. Of these measures air conditioning is the most costly solution in terms of both real dollars and environmental impact.

The College commits to retrofitting existing spaces with heat load reducing mechanisms prior to introducing mechanical cooling to a space. The College will use mechanical intervention for cooling and humidity control only when natural methods and retrofits to minimize solar radiation intrusions and other heat created by equipment, machinery, and human activity are proven to be inadequate on an on-going basis.

Examples of natural methods and retrofits could include:

- Effective window shades
- Awnings (although this may not be aesthetically appropriate)
- Installed ceiling fans
- Improved cross ventilation
- Improving external fresh air flow into closed interior spaces

2. Measures to Increase Thermal Comfort During Sustained Periods of Extreme Heat

The College encourages supervisors to exercise flexibility in assisting employees in finding adequate working conditions during periods of extreme heat.

During such periods:

A "relaxed dress code" will be in effect. All college staff, as well as faculty and students, are encouraged to wear light, well-ventilated, appropriate attire.

Wherever possible, flexible work schedules should be implemented, allowing employees to report to work 1-2 hours early and leaving earlier to avoid the maximum heat period during the middle and late afternoon.

Wherever it is not imperative that staff remain at their desks at all times, supervisors will permit them to take their work and move to a "cool area" - a naturally cooled or air conditioned space either in the same building or in a proximate one. Similar "cool areas" will be established in, or proximate to, student dormitories and classroom/office buildings.

Employees working in spaces that cannot be cooled by using natural cooling methods and fans (e.g. because they have no windows or no or inadequate cross-ventilation) and where installing air conditioning units is not a reasonable option will be permitted to take an extra morning and afternoon break in a "cool area". On rare and extreme occasions, should the temperature in such a space rise to a point where productive work is no longer possible, and the worker(s) impacted cannot move to cooler work areas, supervisors should dismiss affected employee(s) after midday under these extreme conditions and report this occurrence to Human Resources. Human Resources will then bring this to the attention of Facilities Services. In these cases employees will not be required to use CTO time. There will be certain exceptions to this recommendation, due to the critical nature of particular employees' job functions which does not allow them to leave their post.

All offices that are not air conditioned will be supplied efficient floor, window, oscillating, and/or ceiling fans, as well as blinds or shades upon request. Facilities Services will determine which cooling method is most efficient for each space.

The designated sections of the air conditioned dining areas should be made available all throughout the day for studying, if needed.

B. Air Conditioned Spaces

1. General Guidelines

The College will use mechanical cooling for cooling and humidity control only when natural methods and fans are proven to be inadequate.

The air conditioning set-point will be 75° Fahrenheit.

Mechanical cooling (air conditioning) in existing structures as well as renovations to or construction of future buildings is restricted to the following categories:

Laboratories or parts thereof that cannot function without a controlled environment (including animal labs).

Large scale computer, printing, radio and other electronic equipment rooms. These kinds of rooms may need cooling both to enable people to work in an area where excess heat is generated by multiple pieces of equipment and to ensure that the operation of the equipment itself is not negatively impacted by excess heat.

Special collections of books, films, photographs and art as well as musical instruments sensitive to changes in humidity or temperature.

Certain academic, social, and dining spaces (including Ross, Atwater, and FIC) used regularly by the College during the summer, where function and equipment makes natural ventilation techniques impractical.

Prime summer study locations capable of comfortably accommodating a large number of students, faculty and staff (Bicentennial Hall, Grille, Library), once it has been established that other measures are not sufficient in cooling down the room to a reasonable temperature.

Classrooms, study lounges, and work spaces where the thermal comfort zone is exceeded on an ongoing basis.

Spaces where natural ventilation is impacted by construction noise and dust, or exaggerated and ongoing external noise clearly impacts occupant productivity. (Such spaces will be considered as requiring temporary mechanical cooling, which will be discontinued with the cessation of the external impact).

2. Policy on Air Conditioning College Spaces

Residential Spaces

Residential space will not be air conditioned except for those accommodations approved by the Americans with Disabilities Act (ADA) Committee and/or the standing Thermal Comfort Committee.

Students or faculty of the summer language schools, as well as their family or guests may not bring and install their own window units except for units installed for health reasons as certified by the ADA Committee or the standing Thermal Comfort Committee based on consultation with the college physician where necessary. This restriction is necessary since the purchase of the unit does not pay for either the operating costs or the environmental damage caused by it. Most importantly, the existing electrical wiring in some of Middlebury College's older buildings may not support the load increase caused by large numbers of window units. Window units installed without permission will be removed by Facilities Management.

In the event that nearby construction or noise makes it unsuitable to open windows in the summer months, window air conditioning units will be considered. Permission to use these units is restricted to the time construction is ongoing and does not extend beyond this period or into any of the following summers.

Classrooms and Lecture Halls

The College is committed to providing a thermal controlled learning environment. Classrooms and lecture halls that cannot be sufficiently cooled down by means of natural ventilation and fans will be air conditioned as deemed necessary by Facilities Services and the dean of the language schools. In addition, the College provides "cool areas" for study and recreational purposes.

Staff and Academic Offices

In general, office spaces will not be air conditioned. The exceptions to this are those offices that are in a building with central air conditioning, or those offices that meet the specific criteria (i.e., equipment, construction, etc.) identified above. Offices that are not currently air conditioned will be surveyed by Facilities Services to assess what additional non-air conditioning measures could be added to these spaces (i.e., improved shades, ceiling fans, etc.) to improve thermal comfort. Spaces that have been air conditioned with window units in past summers will be reassessed to ascertain if air conditioning is absolutely necessary or if other means of cooling may be sufficient.

Academic and office spaces with central air conditioning will be enabled to operate only during the summer language school months of June, July, and August (except for spaces with inoperable windows, such as Bicentennial Hall). The target temperature for these spaces will be 75°F. Exceptions will be made only for the purpose of using central air conditioning to protect equipment and collections, as outlined above.

Faculty or staff of the summer language schools may not bring and install their own window air conditioning units except for units installed for health reasons as certified by the ADA Committee or the standing Thermal Comfort Committee based on consultation with the college physician where necessary. This restriction is necessary since the purchase of the unit does not pay for either the operating costs or the environmental damage caused by it. Most importantly, the existing electrical wiring in some of Middlebury's older buildings may not support the load increase caused by large numbers of window units.

Social and Recreational Spaces

Many of the social and recreational spaces on campus do not need to meet the same comfort criteria as academic and office spaces since the use of such space is voluntary. Those social and recreational spaces equipped with central air conditioning will be enabled to operate only during the summer language school months of June, July, and August (except for spaces with inoperable windows, as well as some dining halls where air conditioning may be needed for very hot days in September). The target temperature for these spaces will be 75°F. If social and recreational spaces are centrally air conditioned due to unacceptable heat loads from building machinery, the chillers will operate based on outside temperature. A temporary air conditioning unit will only be considered to cool social and recreational spaces if nearby dust or noise from construction makes it unreasonable to open windows during the summer months.

C. Policy Implementation

Facilities Services will oversee the implementation of Middlebury College's Thermal Comfort policy.

Facilities Services and the Office of Environmental Affairs will maintain a web page on strategies for keeping oneself and one's workspace or residential space cool during summer's hottest days. For areas that are currently not air conditioned, Facilities Services will seek to employ measures to minimize the solar and mechanical heat load of the building as discussed above. Mechanical cooling will be considered only after room and ceiling fans, insulation, shades, awnings, and security measures for nighttime air flushing prove ineffective in lowering the temperature to the thermal comfort zone defined by ASHRAE. It is the responsibility of those impacted by unreasonable thermal conditions to report such situations to Facilities Services either directly or through one's supervisor, faculty or language school coordinator.

Air conditioning will be considered only after room and ceiling fans, insulation, shades, awnings, and security measures for nighttime air flushing prove ineffective. Special consideration should be given to those employees who cannot leave their post even during periods of extreme heat because their job function is critical to the operation of the college.

For spaces that are centrally air-conditioned, the temperature and humidity in the space will be controlled by Facilities Services. Spaces with manually controlled window air-conditioners, occupants will be requested to comply with set-point limits identified by Facilities Services (75°F) as well as good practices (i.e., when the unit is on, other windows are shut and window shades drawn). In special cases, window units may be hooked up to the central control system and regulated directly by Facilities Services.

Requests for accommodation from students based on a qualifying disability should be submitted to the ADA Coordinator and should be in accordance with the ADA Policy at Middlebury College. All requests of this nature will be reviewed by the ADA Committee who shall determine the student's eligibility for accommodations under the ADA. Permission to operate a window air conditioning unit based on a qualifying disability will require the support of the ADA Committee which may require a medical consultation between the student's health care professional and the college physician. If both requirements are met, the ADA coordinator, in consultation with an appointed member of the standing Thermal Comfort Committee, will determine and facilitate with the appropriate accommodation.

Requests for accommodation from students based on a medical need that does not fall under the ADA guidelines should be submitted solely to the standing Thermal Comfort Committee. These requests must be accompanied by a letter from a qualified physician documenting:

1. the special medical condition requiring constant air conditioning in a climate like Vermont's (with a typical maximum of no more than 5 consecutive days of extreme heat each summer)

2. an explanation of the medical need for constant air conditioning along with an explanation of the medical dangers incurred if air conditioning is not provided
3. the expected duration of the medical condition, and
4. plans for reassessment of the medical condition at a future date (if the student is returning to campus for more than one summer).

The standing Thermal Comfort Committee, or an appointed member of the committee, in consultation with the College physician, will then determine if there is a documented medical need, and, if there is, facilitate with the appropriate accommodation.

The standing Thermal Comfort Committee reserves the right to ask the person making the request to obtain a second medical opinion from another qualifying physician at the requestor's expense.

Requests from faculty and staff should be submitted to the Human Resources manager of employee relations, who, in consultation with an appointed member of the standing Thermal Comfort Committee, will determine the appropriate accommodation.

All requests for air conditioning based on these or any other contingencies not covered in this report will be adjudicated on a case-by-case basis by the standing Thermal Comfort Committee consisting of one of the associate deans of the faculty, the director of facilities services, and the operations manager of the language schools, who will make their decisions in consultation with the College physician (as needed), the director of environmental affairs, and the director of the budget office.