

# Heating and Cooling (Temperature Set Point) Policy

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## Statement of Purpose

Pacific Lutheran University is a signatory of the Talloires Declaration, as well as a member of the Leadership Circle of the American Colleges and Universities President’s Climate Commitment. This requires PLU, like many other Universities, to adhere to a more stringent way of operating its buildings’ HVAC systems if we are to continue decreasing our carbon footprint.

- Heating and Cooling Guidelines include, but are not limited to defining set heating and cooling temperatures to apply to all buildings owned by Pacific Lutheran University. These vary by season, daily periods of occupancy, building characteristics and mechanical system limitations.
- In FY16, the University spent just over \$800,000 in electricity charges and consumed more than 14,000,000 kWh. Costs related to electric heat and cooling usually account for over 50% of a building’s electric total. PLU also experienced a 5% utility rate increase for electricity in 2016.
- In that same fiscal year, more than \$400,000 was paid for the natural gas consumption of over a half million therms. According to the EPA, burning one therm of natural gas produces on average 5.3kg (11.7 lbs) of carbon dioxide.

## Defining the Cooling and Heating Seasons

For the purpose of this policy, seasonal intervals must be defined for heating and cooling. Summer months that require cooling are typically those that fall between June and September. The months that require heating are usually between October and May. During transitional or “shoulder” periods, there will be days when air-conditioning or heating is not provided to buildings even if the outside air temperature may require it. This is because it is not feasible with manpower or HVAC systems to alternate between cooling and heating on a daily basis. However, during these “shoulder periods”, the outside air temperature is usually mild and space temperatures are expected to be within an acceptable range. We identify these seasonal switchovers when temperatures are consistently greater than 80° F or less than 60° F for multiple consecutive days and based on weather forecasts.

Occupied Comfort Heating Setpoint	Occupied Comfort Cooling Setpoint	Unoccupied Heating Setpoint	Unoccupied Cooling Setpoint
• <b>68° F</b>	• <b>76° F</b>	• <b>55° F</b>	• <b>82° F</b>

## Temperature Set Points (Occupied Hours)

Space temperatures will be targeted ( $\pm 2^\circ$ ) for 68° F through the heating season and 76° F through the cooling season during occupied hours. This is an 8° F dead band where PLU would be neither heating nor cooling the building, thus saving energy. The target temperatures are within the range that is acceptable to 80 percent of the building occupants per ANSI/ASHRAE Standard 55, *Thermal Environmental Conditions for Human Occupancy*. This is also the recommended range of temperature control as provided by OSHA and the U.S. Department of Labor. However, due to the age of the heating and cooling systems on campus and the inability to

control temperatures at individual room level, occupants may experience a range of temperatures in their spaces that are a few degrees on either side of the ideal set points. If the space temperature consistently drops below 68° F (+ 2° F) in a heated space during winter or is above 76° F (+ 2° F) in an air conditioned space during summer, inside of occupied hours, please complete a work order on Facilities Management website and we will address the issue.

### **Space Temperature Set points during Unoccupied Hours**

During off-hours and weekends, the temperatures will be adjusted to be as low as 55° F during winter and as high as 82° F during summer. The central fan systems may be shut off or cycled on and off to maintain these adjusted setback temperatures and conserve energy. Each building will be unique as to the time required to bring a building back to the occupied hours' set point. Cooperation is required of building occupants to accurately predict and adjust this time in order to maintain comfort levels. This is achieved based on active input to Facilities.

### **Use of Space Heaters, Portable A/C Units and Fans**

As a policy, space heaters and portable A/C units are prohibited due to fire code, safety considerations, and energy conservation mandates. Many of our buildings also have limited power available and cannot support safe use of these devices. Facilities Management will provide (where deemed necessary) approved space heaters only in those limited instances where the building systems cannot provide temperatures within acceptable variation of the ranges stated above. All other space heaters/portable A/C units in any other spaces are subject to removal by the Fire Marshall, Environmental Health & Safety or Facilities Management. Energy efficient table or pedestal fans are permitted and considered acceptable solutions to increase your sense of comfort by improving air movement.

### **Building Occupants Actions and Guidance**

Building occupants can help contribute to this policy and make it a successful University-wide conservation effort. Building occupants are encouraged to wear seasonally appropriate or layered clothing to prevent discomfort when outside temperatures are cooler. In the unseasonably hot periods, the community is encouraged to utilize air conditioned spaces across campus (Mortvedt Library, Morken Center, etc.). Please keep thermostats clear of obstructions and move away any heat generating equipment (lamps, computers, coffee makers, etc.) for proper temperature sensing. In addition, please do not open doors or windows when a space is being heated or air conditioned as this only compounds the energy wasted.

### **Exceptions for Equipment Heating and Cooling**

Critical locations such as computer centers, laboratories and other areas with sensitive equipment may follow a separate procedure or be exempt from this policy. Areas that are served by the same system as the exempt spaces will be affected and will experience similar temperatures. Requests for these spaces can be made through the Facilities Management office.

### **Questions or Concerns**

Questions about the temperature set point policy can be addressed to Facilities Management at [fama@plu.edu](mailto:fama@plu.edu) or 253-535-7380. To report issues with heating or cooling, please visit the Facilities Management website at [www.plu.edu/facilities-management](http://www.plu.edu/facilities-management) to submit a work order.