THE UNIVERSITY OF SAN DIEGO
TEMPERATURE STANDARDS

Background

The University of San Diego (USD) strives to maintain a safe and productive environment for students and employees. USD is also committed to meeting and exceeding the targets for energy efficiency and greenhouse gas (GHG) emission reductions outlined in the University's Climate Action Plan. Energy conservation through careful and efficient operation, management and maintenance of building systems is essential to meeting these goals. One important aspect of building management is to establish and maintain temperature standards for university facilities.

Standards

Based on guidance from professional and governmental organizations, as well as best practices from other institutions, USD will maintain building temperatures at or above 70°F in the heating season, and at or below 74°F in the cooling season during **occupied hours** (see below). During **unoccupied hours**, buildings will be set to 80°F during the cooling season and 55-60°F during the heating season.

OCCUPANCY SCHEDULES

Building/Space Type	Occupied Hours
Academic/Classroom	7 a.m. to 10 p.m., Monday through Friday
Administrative	7 a.m. to 6 p.m., Monday through Friday
Dining / Recreation Center / University Center & SLP	In accordance with listed hours of operation
Auditoriums and Theaters	In accordance with schedule of use
Teaching laboratory	7 a.m. to 10 p.m., Monday through Friday during the academic year
Residence Hall	24 hours per day, except holidays and extended breaks
Library	6:30 a.m. to 10 p.m. daily
Research laboratory/Art Studios/Archives	24 hours per day if required, or as identified by building contact

Other considerations:

- Operation schedules and temperature set points will be modified in cooperation with building contacts as needed to accommodate non-standard building operations.
- Employees can expect that the temperature within a building during occupied hours will be no less than the minimum of the heating season thermostat set point range, and no more than the

maximum of the cooling season set point range established above. Temperature adjustments outside of these ranges will generally not be permitted.

Best Practices

To maintain indoor environmental conditions that both promote the productivity and comfort of occupants and steward our financial and environmental resources, USD facilities will be operated within temperature set points that fall within ranges established by the Occupational Safety and Health Administration (OSHA) and recommended by ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers). *ASHRAE Standard 55-2013: Thermal Environmental Conditions for Human Occupancy* details the combinations of environmental and personal factors that establish thermal conditions acceptable to a majority of occupants within a space. Assuming slow air movement (< 40 feet per minute) and 50% indoor relative humidity, the standards establish a winter operating range of 68.5 to 75°F, and a summer range of 75 to 80.5°F. Similarly, during occupied hours, OSHA recommends thermostats be set between 68°F to 76°F.

As a useful comparison, other institutions in the region have adopted temperature setbacks and occupancy hours to reduce their energy consumption. For example, the University of California at San Diego established a 70-74 °F range for buildings during occupied hours (6 am – 6 pm, weekdays), and 66-78 °F during unoccupied hours (8 pm – 6 am daily for admin/office buildings; 6 pm – 6 am daily for labs).

Extreme High Temperature Events

Occasionally, extreme high temperature events occur that cause stress to the local and/or regional electrical grid, and create much higher costs for electrical demand. During these periods, San Diego Gas and Electric may request our assistance to conserve electricity, especially in afternoon periods when air conditioning is typically at peak use.

To further act as good stewards of our financial resources and maintain our campus commitment to our environment, USD will institute special demand-response measures during these extreme weather events. These measures include raising temperature set points to 76°F and adjusting fan speeds for campus heating/ventilation/air conditioning (HVAC) systems. USD Facilities will provide the campus as much advance notice possible prior to these discrete events.

Faculty and Staff Responsibilities

Meeting our energy and productivity goals requires active support and participation from all members of our campus community. Building occupants are expected to maintain their thermostats within the prescribed ranges in areas where temperatures cannot be controlled by the building automation system (BAS). Employees are also expected to assist in minimizing campus energy consumption via other general means including:

- Adjusting attire as appropriate to indoor environmental conditions.
- Ensuring that windows and exterior doors are closed.
- Avoiding the use of personal space heaters.

Any employee that observes the temperature within her/his work area outside the temperature ranges specified above may contact the **Facilities Help Desk** at **x4250** to request an assessment of the heating and cooling system supplying the area.

SOURCES:

1. ASHRAE Technical FAQ ID 92: https://www.ashrae.org/File%20Library/docLib/Technology/.../TC-02.01-FAQ-92.pdf
2. EPA (2017): https://www.epa.gov/mold/mold-course-chapter-2#Chapter2Lesson3
3. OSHA Technical Manual, Section III: Chapter 2, V.A.3: Air Treatment: https://www.osha.gov/dts/osta/otm/otm_iii/otm_iii_2.html#5
4. ASHRAE Standard 55-2013, Thermal Environmental Conditions for Human Occupancy
5. https://www.cdc.gov/niosh/topics/indoorenv/temperature.html