

MechSE WELLness

T01 Thermal Performance

Intent: Ensure majority of the building users find the thermal environment acceptable.

The indoor thermal environment is ranked as one of the strongest contributing factors to overall human satisfaction in the built environment. Due to its linkages to integumentary, endocrine, and respiratory body systems, thermal comfort can cause a variety of detrimental health outcomes. Cold and dry spaces are known to facilitate the spread of the influenza virus, whereas warm and humid spaces result in increases in irregular heart rate, respiratory issues, fatigue, and negative mood. They also contribute to mold growth.

Impact: Impacts a building's energy footprint and leads to improved occupant experience leading to greater job satisfaction.

What are the requirements to earn this credit?

1. During standard occupied hours (8am to 5pm excluding holidays and weekends), 100% of regularly occupied spaces achieve satisfactory thermal conditions per ASHRAE 55 – Thermal Environmental Conditions for Human Occupancy – within +/- 0.5 PMV level.
2. Conduct ongoing monitoring of dry-bulb temperature, relative humidity, air speed, and mean radiant temperature no less than once in the summer and once in the winter in locations approved by WELL Guidelines and submit results to WELL Online.

How is MechSE accomplishing these requirements?

We are the department on campus that educates future mechanical engineers to meet thermal performance credits. Thus, we have these aced! Our Director of Facilities (BSME 2005) provided the design engineer advanced operational instructions of our HVAC systems that meet ASHRAE 36 to allow for continuous and automatic diagnostics of many features and auto-alarming to technicians to address issues proactively (hopefully before you ever notice!). 24 hours a day, 7 days a week, and 365 days a year these auto-fault detection and diagnostics run across all spaces within LUMEB and monitor the temperature, humidity, and air speed. Facilities is working to ensure everyone finds the thermal environment at LUMEB acceptable.



UNIVERSITY OF
ILLINOIS
URBANA-CHAMPAIGN