

# Forest HVAC System Operation

## Building Equipment-

A steam converter makes hot water that is circulated throughout the building by electric pumps. A hot water radiator is placed in each room, typically under the window. An electric chiller is located on the north side of the building and produces chilled water that is pumped through the building to fan coil units in rooms above the ceilings. Some rooms have their own chilled fan coils, but most (shared sinks is a good indicator that you share a fan coil) will share a fan coil with a neighbor. Two air handlers located in the attic provides 100% fresh air to all spaces. There is a heat recovery wheel in each air handler which pre-heats the incoming outdoor air. It does so by flowing the warmer exhaust air and fresh outdoor air through a rotating wheel. The rotating wheel is warmed by the exhaust air, and when rotated through the fresh outdoor air, pre-heats that cooler outdoor air before entering into the building. This is a most efficient method of bringing in fresh air without sacrificing energy waste.

## 1<sup>st</sup> Floor Center Rooms Cooling/Heating control- (Rms. 128,129,130,131,131A,131B,132,133,136,137,138B,138A,139,140, and East and West Lounges)

Enabling heating to the building uses a slightly complicated algorithm to turn on the heating pumps. But basically, with outdoor temperatures that are less than 55 degrees, the heat will be enabled. If outdoor temps stay below 65 for a day or so, the heat will also be enabled until they rise above 65 degrees, at which point the heat shuts off.

Each room has a radiator in the space ([for 1<sup>st</sup> floor center rooms see this video](#)).

For cooling, when the outdoor temperatures are above (approx.) 68 degrees, the chiller will be enabled to run. Once above that temperature, the on/off pushbutton will function.

## Occupant comfort control-

Forest users in the 1<sup>st</sup> floor center rooms must push the on/off pushbutton on their room thermostats to put the room into a cooling state. The cooling state will last 4 continuous hours.

If you push the on/off button a second time, the unit will shut off.

Occupants can adjust their cooling set points by using the up/down arrows on the thermostat.

During the summer cooling season, users can adjust their set point from a low of 75 degrees F to 85 degrees F. NOTE: The thermostat may show lower than 75 degrees if you push it down that low but will revert to 75 after a few minutes.

**If a room is in a cooling state or the heat is on, the windows should be shut and locked. Locking the window provides a tighter seal around the window which keeps cold drafts from blowing in.**

There are two different types of thermostats for the center section. The next few pages show how they operate.

If the screen on the thermostat is mostly blank, but shows the word "central", the system is not enabled for cooling yet and something, (most likely the outdoor air temperature) is keeping it from running.



The word "central" is gone, the system is now ready to be used for cooling if you desire.



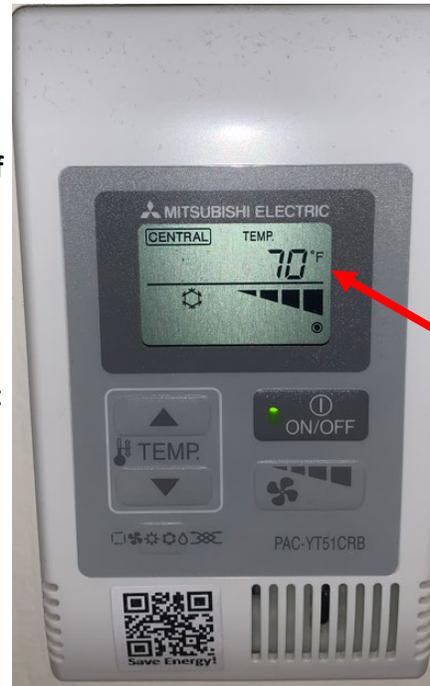
To enable cooling, press the on/off button once. The green LED will light on the button. The fan will start and the fan indicator will show on the screen.



After a few minutes, the defaulted cooling set point of 85 will show on the screen. You must now press the down arrow to move the set point to your desired temperature. (remember, 75 is the campus low cooling set point).



If you lower the set point to lower than 75, the system will revert to 75 after a few minutes.



Cooling will last for 4 hours, but you can always press the on/off button again to shut the system off when you leave the room.



You can adjust the fan speed as well if desired, but the highest fan speed seems to work well for most spaces.

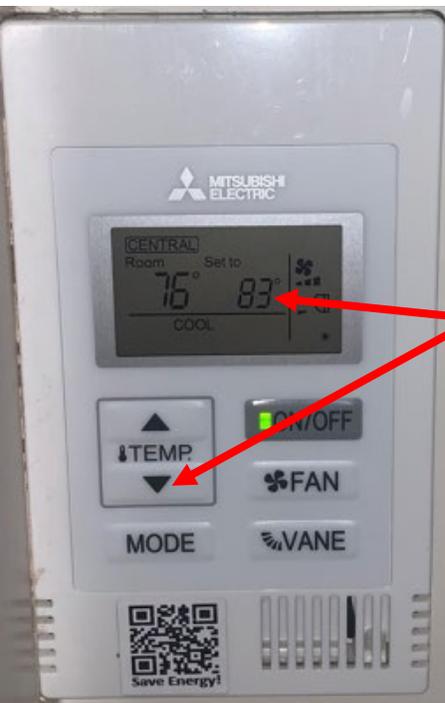
If the screen on the thermostat is mostly blank, but shows the word "central", the system is not enabled for cooling yet and something, (most likely the outdoor air temperature) is keeping it from running.



The word "central" is gone, the system is now ready to be used for cooling if you desire.



To enable cooling, press the on/off button once. The green LED will light on the button. The fan will start and the fan indicator will show on the screen. The current room temperature will show up on the screen.



After a few minutes, the defaulted cooling set point of 83 will show on the screen. You must now press the down arrow to move the set point to your desired temperature. (remember, 75 is the campus low cooling set point).



If you lower the set point to lower than 75, the system will revert to 75 after a few minutes.

Cooling will last for 4 hours, but you can always press the on/off button again to shut the system off when you leave the room.



You can adjust the fan speed as well if desired, but the highest fan speed seems to work well for most spaces.