

# Thermal Comfort

## \* Conduction

- transfer of heat from the warmer to cooler particles
- conduction accounts for a very small portion.

## \* Convection

- the circulatory motion of heat parts
- Increased air motion induce more heat

## \* Radiation

- heat energy in form of electromagnetic waves by warm bodies
- Radiant heat cannot travel around corners

## \* Evaporation

- evaporative process of body moisture
- high air temperature, humidity and activity level

## \* Air Temperature and Mean Radiant Temperature

- Mean radiant temperature (heat from walls by radiation)
- In cold weather, the mrt of interior surface than  $5^{\circ}$

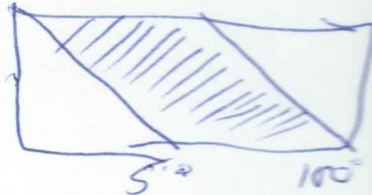
## \* Air Temperature and Relative Humidity

- The ratio of amount water vapor present in air
- Low humidity can have desirable effects

## \* Air Temperature and Air Motion

- Increase heat loss by convection evaporation
- Air velocity should range between 10 and 50 feet per minute
- helpful for cooling evaporation.

Factors affect human include  
air temperature  
relative humidity  
light.



New Topic

# Heating and Cooling Loads

## \* Heat load

- hourly rate of net heat loss
- It is used to compute heating and cooling load size

## \* Cooling load

- hourly rate of heat gain in enclosed space

