FAQs about Campus Ventilation

How do HVAC systems work in our campus buildings?
Air is mechanically supplied to building spaces by air handler units or natural ventilation (open windows). Our more than 150 heating, ventilating, and air conditioning (HVAC) systems on campus are maintained to provide ventilation and thermal comfort. Campus buildings and facilities vary widely in age, condition, and system age, ranging from two to 63 years. Many have unique operating characteristics depending on the type of spaces they serve.

How has Michigan Tech adjusted HVAC systems to meet COVID-19 best practices?
Operation of HVAC systems on campus has been adjusted based on Centers for Disease Control and Prevention (CDC) and American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) guidelines to reduce the likelihood of viral transmission through HVAC systems. ASHRAE guidelines include:
● Increasing outdoor air ventilation volumes
● Extending HVAC equipment run times outside of occupied hours
● Improving filtration on HVAC systems

How is MTU reducing COVID-19 transmission through the HVAC system?
The following best practices are being implemented on our campus:
● Increase the volume of outdoor air to the maximum level that the heating and cooling capacities of each unit will allow.
● Extend HVAC operating schedules before and after normal occupancy times to flush the building with fresh air.
● Upgrade air filtration where possible.
● Continue to monitor and maintain HVAC systems to maximize effectiveness.

Does my work area have adequate ventilation?
All HVAC systems on campus were designed and built to the building codes and indoor air quality best practices at the time of construction. A survey of ventilation rates on campus was conducted this summer to verify that airflows were at or near design conditions. And, additional measures recommended by the Centers for Disease Control and Prevention (CDC) and American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) have been implemented to further reduce the likelihood of viral transmission.

Should I open my window?
In most cases, yes. Windows in research spaces designed to be at negative pressure to avoid migration of contaminants into other areas of the building should not be opened. Windows in all locations should be closed at night, during cold weather, and when the room is unoccupied.

Can I use a portable air conditioning unit or fan when it gets hot?
Yes. Portable air conditioners recirculate air within the room. Direct any discharge airflow away from people in the room. Follow physical distancing and face covering guidelines, and operate the units in accordance with manufacturer instructions for use and maintenance.

Can I use a portable air cleaner in my office?
Yes. When properly sized and operated per manufacturer’s instructions, an air cleaner can help reduce airborne contaminants—including viruses—in a confined space. However, by itself a portable air cleaner is not enough to protect people from COVID-19. Portable air cleaners should be used along with other best practices recommended by the Centers for Disease Control and Prevention (CDC) and American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).
How many air changes per hour happen in my room/classroom/office?
In compliance with building codes, most classrooms and office spaces have a minimum of three to five air changes per hour. Laboratory spaces generally have higher ventilation rates.

Can my building’s supply airflow or exhaust airflow be increased or rebalanced?
HVAC supply and exhaust systems work in tandem to maintain building pressures that are close to neutral. Many systems do not have fan capacity to increase airflows. However, systems have been reprogrammed so air handling units run for longer time periods for increased air circulation and filtration. Damper controls have been set at 100 percent outside air so as not to recirculate air back into the space.

What ventilation is provided in stairwells?
Most stairwells have mechanical ventilation, but many do not. Whenever possible, staff will open windows in stairwells and corridors that do not have mechanical ventilation. Keeping these windows open as much as possible during mild weather will provide some natural ventilation. When taking the stairs, stay to the right and stay six feet behind the person in front of you. Move with the flow of traffic and do not congregate in groups in stairwells.

What ventilation is provided in elevators?
The CDC recommends minimizing traffic in enclosed spaces such as elevators and stairwells. In keeping with these guidelines, Michigan Tech’s elevator etiquette is posted on all elevators on campus as part of University safety protocols:

- Consider taking the stairs if/when you are able.
- Avoid overcrowding. Maximum elevator capacity is four people.
- Wear a face covering while entering, riding, and exiting the elevator.
- Position yourself in a corner when riding with others.
- Use your knuckle to push the buttons.
- Avoid touching anything else in the elevator.
- Wash your hands or use hand sanitizer after exiting the elevator.

Michigan Tech is also investigating whether elevator car disinfecting units would be a viable option on campus.

Will anything be done differently in the winter?
As the weather changes, windows will need to stay closed more often and people will spend more time indoors. Michigan Tech will continue to follow best practices from the Centers for Disease Control and Prevention (CDC) and American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), and continue to evaluate system operation on a case-by-case basis. We will also upgrade filter efficiency, where possible, on systems that recirculate large volumes of air in winter.

Did’t find your answer? Please send us your question so we can answer and share it.