



MRFA

MOUNT ROYAL
FACULTY ASSOCIATION

COVID Update – October 3, 2022

Welcome to the most recent Covid Update as of October 3, 2022. This document provides a summary of the *Peterborough Public Health* article on [Carbon Dioxide \(CO2\) Monitoring for Indoor Air Quality](#) and is new information that was not previously highlighted in recent [Covid Bulletins](#).

Overview: CO2 Levels & COVID-19

Within the MRU indoor environment, air circulation (i.e., fresh air) and adequate ventilation are important components in preventing transmission of airborne illnesses along the pathway. Carbon Dioxide (CO2) levels are an indicator of whether or not a space has sufficient air ventilation / fresh air. Specifically, high CO2 levels means that there is poor ventilation. As CO2 levels increase, other indoor pollutants can also increase within a poorly ventilated space. This includes respiratory particles and the viruses they carry. For example, COVID-19 spreads from person to person through droplets and airborne transmission.

To be clear, the reading on a CO2 monitor is not a direct indicator of risk for COVID-19. CO2 readings will help you determine if you should take simple steps to lower the risk of transmission as poorly ventilated indoor spaces increase your risk of COVID-19.

CO2 readings can determine if changes should be made to ventilation or capacity limits. Improving ventilation and reducing the number of people inside, can decrease the risk of transmission.

Acceptable Level of CO2 in a Classroom

The Government of Canada has set the long-term exposure limit for CO2 in residential settings at 1000 ppm, averaged over a 24-hour period.¹ Further, the Government of Canada has released guidance for cleaner air spaces during smoke events that identifies the target condition for public spaces as carbon dioxide should be kept below 1000 ppm.² Locally within the MRU community, the Environmental Health and Safety Office has indicated that the RLC HVAC system is automated and set to "act" on level of 700 ppm and that the number that raises a warning flag for building operations to check further is 1500 ppm.

MRFA's CO2 Monitors

The Association has purchased four (4) CO2 monitors that members can [borrow](#) to test their space.

How to Place CO2 Monitor

¹ Government of Canada: [Carbon dioxide in your home](https://www.canada.ca/en/health-canada/services/publications/healthy-living/carbon-dioxide-home.html), <https://www.canada.ca/en/health-canada/services/publications/healthy-living/carbon-dioxide-home.html>

² Government of Canada: [Guidance for Cleaner Air Spaces during Wildfire Smoke Events](https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-cleaner-air-spaces-during-wildfire-smoke-events.html), <https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-cleaner-air-spaces-during-wildfire-smoke-events.html>

CO2 sensors should be placed in two places in the room, preferably at a height of 1-2 m and well away from windows or air supply vents, and at least 2 m away from people or open flames. Once installed, you should see CO2 levels change a lot as people enter and leave the space, or when windows and doors are opened.

Concerning CO2 Monitors Levels & How to Respond

Prior to taking action, you should consider what local factors might be present within your space, as they will impact how you respond to your CO2 readings. For example, consider the following:

- If you come into the space at >1200 ppm (e.g., after another class) then proceed to Step 2 below and take immediate action.
- If the CO2 limit increases over a class-time period then consider escalating the action you are taking to slow or decrease the increase.

1. CO2 Readings of >1000 ppm

- a. Continue to be mindful of the monitor, as action is not immediately needed, but may be required if dynamics change.
- b. Consider implementing controls within the classroom to slow the increase of CO2 levels. These might include, but is not limited to:
 - i. Wear a triple-layer mask, a three-layered surgical mask, or an N95 mask while in the space;
 - ii. Reducing the number of people in the space;
 - iii. Avoiding strenuous activities like shouting, speaking in a loud voice, or physical exertion;
 - iv. Placing portable air filtration systems throughout the space. The MRFA has air filters which you can borrow ;
 - v. Opening windows and doors where the safety of occupants won't be jeopardized, and the function HVAC system won't be affected;

2. CO2 Readings of 1000 - 1500 ppm

- a. Consider taking a break of 15-30 minutes to allow the campus' HVAC system to catch up with the local situation and to "clear the air".
- b. Take a photo of the monitor to capture the displayed result. Ensure that the photo includes the follow details
 - i. The monitor's display, with the reading visible,
 - ii. The location of the monitor within the room, and
 - iii. If possible, the time that the reading was taken.
- c. Attempt to resolve the issue locally. This might include, but is not limited to:
 - i. Wear a triple-layer mask, a three-layered surgical mask, or an N95 mask while in the space;
 - ii. Reducing the number of people in the space;
 - iii. Avoiding strenuous activities like shouting, speaking in a loud voice, or physical exertion;
 - iv. Placing portable air filtration systems throughout the space. The MRFA has air filters which you can borrow ;
 - v. Opening windows and doors where the safety of occupants won't be jeopardized, and the function HVAC system won't be affected;
- d. Follow MRU's Step 1 of the Emergency response plan.
 - i. *Step 1: Notification of the Incident or Emergency:*

1. Notify people in the immediate area (i.e., the classroom) of the situation so they can evacuate, avoid the area or assist, as appropriate.
 2. If the incident is non-life threatening, but you still need assistance (e.g. first aid, security concern, chemical spill), notify Security Services, 403.440.5900.
- e. Follow MRU's Step 2 of the Emergency response plan.
- i. Step 2: Report the Safety Incident
 1. Personally, submit all safety incidents (injuries, property damage, hazardous environmental spill, or close calls) to the [Injury / Incident Report Form](#).
 2. Report the incident to your direct Supervisor. Ensure that they submit a copy of the [Injury / Incident Report Form](#).
- f. Contact the Association, via LabourRelations@mrfa.net, to report the CO2 level.
- g. Submit a request for Building Operations to conduct further investigation. Submit this request via Frontline.
- h. Consider if you need to exercise your right to refuse dangerous work.
- i. For more information please review the MRFA's Information bulletin regarding [Information Related to Right to Refuse Dangerous Work](#).

3. CO2 Readings of 1500 ppm or greater

- a. Take a photo of the monitor to capture the displayed result. Ensure that the photo includes the follow details
 - i. The monitor's display, with the reading visible,
 - ii. The location of the monitor within the room, and
 - iii. If possible, the time that the reading was taken.
- b. Follow MRU's Step 1 of the Emergency response plan.
 - i. *Step 1: Notification of the Incident or Emergency:*
 1. Notify people in the immediate area (i.e., the classroom) of the situation so they can evacuate, avoid the area or assist, as appropriate.
 2. If the incident is non-life threatening, but you still need assistance (e.g. first aid, security concern, chemical spill), notify Security Services, 403.440.5900.
 - ii. Consider taking a break allowing yourself and others to evacuate the space.
- c. Follow MRU's Step 2 of the Emergency response plan.
 - i. Step 2: Report the Safety Incident
 1. Personally, submit all safety incidents (injuries, property damage, hazardous environmental spill, or close calls) to the [Injury / Incident Report Form](#).
 2. Report the incident to your direct Supervisor. Ensure that they submit a copy of the [Injury / Incident Report Form](#).
- d. Contact the Association, via LabourRelations@mrfa.net, to report the CO2 level.
- e. Submit a request for Building Operations to conduct further investigation. Submit this request via Frontline.
- f. Consider if you need to exercise your right to refuse dangerous work.
 - i. For more information please review the MRFA's Information bulletin regarding [Information Related to Right to Refuse Dangerous Work](#).

We will continue to communicate regularly with bulletins as needed. Meanwhile, if you have additional questions or remarks, please contact LabourRelations@mrfa.net.