FAQ About Health and Safety in FIT Facilities

Revised Jan. 7, 2022/Confirmed Aug. 22, 2022

The following FAQs provide health and safety information as it affects the FIT campus and facilities:

VENTILATION AND AIR QUALITY

What kind of ventilation and air quality systems are used at FIT?

FIT's HVAC system is upgraded and modified on an ongoing basis in compliance with industry standards. Over the last 12 years, FIT has made many of these upgrades in partnership with New York's Department of Citywide Administrative Services (DCAS) to reduce its greenhouse gas emissions and carbon footprint. The following is an overview of industry standards and FIT's compliance with these standards:

- With respect to **system design**: HVAC and exhausts systems are a critical component of building design and installed during construction. HVAC systems are reviewed by a licensed professional engineer (PE) whenever changes are made to a building.
- Offices and classrooms were designed to meet a minimum rate at which outdoor air replaces indoor air. This is described as the **air exchange rate**.
- The American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) sets the minimum **outdoor air ventilation rates** for buildings in the ASHRAE Standard 62.1 and 62.2 guidelines. These standards specify how much outdoor air should be brought into a room every hour and is based on occupancy and room size.
- For other spaces like offices, shops, and schools, the ASHRAE 62.1 standard does not give a fixed number. Instead, **airflow rates** based on the size of a room, its use (e.g.,

school, office, sports arena) and the number of people inside are provided. These can be used to calculate exact airflow requirements for a certain space.
    - In offices: 2–3 air changes per hour
    - In classrooms: 5–6 air changes per hour
    - In dining facilities: 6–8 air changes per hour
    - In residential: 0.35–1 air change per hour
- **Ventilation and air change rates are calculated on a per-person basis**. Reducing occupancy increases fresh air available and, conversely, if the number of occupants in a room doubles, the required ventilation rate or air change will also double. This rule can be useful for office spaces as the occupancy level changes.
- Every 10 years, in compliance with New York Local Law 87, FIT performs a **periodic energy audit** and retro-commissioning as part of the Greener, Greater Building Plan (GGBP). At FIT, this audit was last completed in 2017.
    - MG Engineering, mgedpc.net, is FIT's external engineering firm retained though a public procurement process.
    - MG Engineering is reviewing FIT's most recent Local Law 87 report, completing random sampling of classrooms and offices in each building to confirm design parameters are still met.
- FIT's Facilities Department maintains **best practice maintenance records** via an automated Building Engines CMMS system. These records are routinely available to all oversight and regulatory agencies.
- Further, FIT is **reviewing all spaces** campuswide to ensure they are ready for re-occupancy. Areas found deficient will be corrected. Corrections could include:
    - HVAC and exhaust fan adjustments
    - Coil cleaning or replacement
    - Duct cleaning
    - Reheat/VAV/CAV cleaning or replacement
    - Register cleaning

  This work would be completed in advance of space re-occupancy. If there are specific spaces where concerns are identified, FIT will traverse the supply and return ducts to determine airflow and exchange for that space.

How often is the ventilation/air replaced?

- **Air changes** differ from area to area. The number of air exchanges in each depends on several factors, including the intended use of the space, and is determined during the design process in order to meet state and local building code requirements.
- **System designs** are approved in New York by the Department of Buildings (DOB) and then maintained to those standards after installation. Recertification is done to meet local laws as described above.

- Most spaces at FIT are designed in the range of four to twelve (4–12) **air exchanges** per hour (ACH) range. Generally, two (2) exchanges per hour are the minimum. The number of people present also impacts supply of fresh outside air added to the space.
- Engineering staff operate the **HVAC system** in accordance with the ASHRAE recommendations and the Centers for Disease Control and Prevention (CDC) guidelines. Changes made since March 2020 include:
    - Overriding **energy efficiency** setbacks.
        - These setbacks typically allow the building to recirculate safe, healthy, and conditioned air in an effort to reduce carbon footprint.
        - The override allows the operator to use maximum (i.e., 80–100%) outside air and bypass any energy wheels or returns in favor of outside air.
- Installing air filters with a **Minimum Efficiency Reporting Value (MERV)** that exceeds CDC guidelines for use during the COVID-19 pandemic.
- All **central HVAC units** have MERV-8 prefilters and MERV-15 bag final filters installed. These filters are monitored by magnehelic devices to alert the HVAC technician when the static pressure across the filter media is reaching its life expectancy (typically 1" of mercury) and thus they are replaced (typically semiannually or quarterly).
- The MERV rating measures how effectively the **filter stops dust** and other contaminants from passing through the filter and into the air stream. Filters with higher MERV ratings trap small particles more effectively.

Should we have air purifiers for our offices?

- **The recommendations of the CDC and ASHRAE do not include air purifiers**. The following paragraphs describe their recommendations:
    - SARS-CoV-2, the virus that causes COVID-19, is thought to spread mainly from person to person through respiratory droplets and aerosols. Infectious respiratory droplets are produced when an infected person coughs or sneezes.
        - Droplets can land in the mouths or noses of nearby people.
        - When in close contact with an infected person, droplets can be inhaled into the lungs.
- **Filters** consist of media with porous structures of fibers or stretched membrane material that remove particles from air streams. The fraction of particles removed from air passing through a filter is termed the filter efficiency and provided by the MERV under standard conditions.
- The CDC and ASHRAE have determined that MERV greater than or equal to MERV 13 are effective at capturing airborne viruses including the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19. MERV 14 or higher are preferred. **FIT uses MERV 15**:

- MERV 15 gives the highest level of filtration while still permitting proper air exchange.
- It is important to note that increased filter efficiency generally results in increased pressure drop through the filter.
- The HVAC systems (including electrical and mechanical requirements and fan size) can be negatively impacted (and thus air flow reduced) by installing filtration in excess of design.
- For more information, visit the ASHRAE website.

What about ventilation in spaces that have no windows?

FIT's offices have **mechanical ventilation** and, in most cases, **windows should remain closed** to allow conditioned air to circulate the space. Opening windows allows non-conditioned air into a space from the outside. This air will not have passed through the HVAC filtration.

- From the FIT Restart website:
    - Engineering staff operate the HVAC system in accordance with ASHRAE recommendations and CDC guidelines. Increased filtration has been added and minimum outside air setting increased to maximize fresh air and exhaust.
    - FIT continues to follow best practices in the management of HVAC systems by running them in accordance with appropriate energy, humidity, and temperature standards; changing filters; and replacing malfunctioning parts, etc. (See sections above on ventilation.)

CLEANING PROTOCOLS

What are the campus cleaning protocols?

FIT complies with **CDC, New York State, and SUNY recommendations** regarding cleaning. Schedules are determined to ensure both safety and the success and efficiency of academic programming. FIT will continue to confer with SUNY and monitor the CDC's updated interim considerations for cleaning and disinfection as well as **New York State Department of Health** guidelines as we plan for fall 2021:

- **Restrooms** are cleaned once at night and twice during the day.
- **Classrooms** are cleaned and disinfected at least once daily.
- **Common use** areas are cleaned and disinfected at least once daily.
- **Office spaces** are on a daily routine cleaning schedule.
- **Stairways, escalators, and elevators** are disinfected once per day on the third (midnight) shift.

- The CDC's updated guidance on **fomite** (objects or materials which have the potential to carry infection, such as clothes, utensils, and furniture) transmission of COVID-19, says that there is low risk via this type of transmission. As evidence has accumulated over the course of the pandemic, scientific understanding about the virus has changed. Studies and investigations of outbreaks all point to the majority of transmissions occurring as a result of infected people spewing out large droplets and small particles called aerosols when they cough, speak ,or breathe. These can be directly inhaled by people close by. Surface transmission is not thought to be a significant risk.
- Hand hygiene stations are located throughout the campus and filled on a regular basis.

MASKS, DISTANCING, AND RELATED EFFORTS

What are the plans to accommodate appropriate distancing on campus?

- Social distancing requirements have changed dramatically with the lifting of state-mandated COVID-19 health and safety restrictions and the governor's June 24 announcement to end the state disaster emergency declaration of March 7, 2020. As a result, there will no longer be social distancing regulations imposed in FIT buildings**.**
- In lieu of social distancing requirements, the college will require all individuals to wear masks regardless of whether they have been vaccinated, until notified otherwise.

Are there plans for plexiglass partitions in classrooms? What about distancing in other areas where students receive services such as Financial Aid, Admissions, CIC, FIT-ABLE, and Counseling?

Current guidelines do not recommend plexiglass partitions, and masks are required on campus for all employees, students, and visitors.

What can we do to avoid getting sick on campus?

Important ways that individuals can contribute to protecting their health and the health of those around them are by getting the COVID-19 vaccine, wearing a mask, washing hands frequently, and staying home when feeling ill. As noted above, FIT consistently complies with industry standards, New York City building guidelines, regulations, and laws, and, during the pandemic, with CDC and New York State Department of Health guidelines. In addition, FIT continues to monitor all physical plant operations which affect indoor air quality and occupant comfort to ensure that we maintain the highest levels of health and safety protocols.