



University of California, Merced
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General Building HVAC System Operations During COVID-19 Return to Campus

This Document summarizes the measures UC Merced is implementing to provide healthy indoor air quality without compromising HVAC system integrity, performance and occupant thermal comfort.

General:

- UC Merced is utilizing California Department of Public Health (CDPH) COVID-19 Industry Guidance for Institutions of Higher Education, Centers for Disease Control and Prevention (CDC), and American Society of Heating, Refrigeration and Air-Conditioning Engineers ([ASHRAE](#)) recommendations to inform HVAC-related measures on campus.

Ventilation:

- The American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) Standard 62.1 defines ventilation as “the process of supplying air to or removing air from a space for the purpose of controlling air contaminant levels, humidity, or temperature within the space”.
- Many HVAC systems recirculate some indoor air to save energy and mix outdoor air based on the code requirements for the space type and its designed occupancy. In these systems, both the outdoor air and the recirculated indoor air are filtered by the HVAC system.
- All central HVAC systems on campus provide continuous ventilation when the building is normally occupied. Minimum outside air ventilation rates comply with Title-24 and ASHRAE 62.1 standards for full occupancy. Controls are in place to provide up to 100% outside air as system performance, thermal comfort and air quality index conditions allow.
- HVAC systems serving classroom and office spaces are programmed with an optimal start sequence that start the ventilation fans at least two hours before occupancy. Post-occupancy purge sequences are also being made available pursuant to ASHRAE recommendations.
- HVAC systems serving laboratory and animal care spaces exhaust all room air directly outdoors and supply 100% outside air with no recirculation.

Filtration:

- Filters are rated by their Minimum Efficiency Reporting Value (MERV) and the rating number is a measure of how effectively the filter traps and removes dust and other particulates of various sizes. Filters with higher MERV ratings trap small particles more effectively than filters with lower MERV ratings. ASHRAE and CDPH guidelines currently recommend MERV 13 rated filters be use where possible.
- Core academic and office buildings on the UC Merced Campus are served by centralized air handling systems with MERV 13 filters. Other buildings (Valley Terraces, Cathedral/Tenaya, modular buildings and off-campus, leased space) have individual fan-coil or packaged units with MERV 8 filters. Upgrading the filters in these systems can impair system performance or require cost-prohibitive modifications and is often not feasible.
- As part of the UC Merced HVAC system preventative maintenance (PM) program, Facilities Management inspects and replaces air filters on a regular schedule throughout the year.
- Questions regarding UC Merced’s HVAC systems can be directed to the Facilities Management FMHelp Desk at <https://jcifmaz.swgasp.com/QFMliveJCIMerced>. Select ‘Guest Login’, then ‘North Campus’ or ‘South Campus’.