



A HEALTHIER FUTURE **STARTS** **INDOORS: HIGHER EDUCATION**

The COVID-19 pandemic has presented a massive challenge for colleges and universities. While significant evidence suggests that in-person learning may be more effective than online, the benefits and positive impact of returning to campus this fall must be weighed against the potential health risks to both students and faculty. And there are unique risks inherent on college campuses due to student activity, density and travel from near and far.

With this in mind, now more than ever, higher education is evaluating buildings with a health lens – designing and retrofitting buildings for health to enable learning, research and living on campuses. Through healthy building strategies, colleges and universities can take steps to reduce the risk of COVID-19 transmission as they welcome students back to campus – and turn schools into powerful tools for student health and progress moving forward.

UNIVERSITY PRIORITIES



THE SCIENCE OF HEALTHY COLLEGES AND UNIVERSITIES

While the current urgency around healthy indoor environments on college campuses revolves around stopping the spread of COVID-19, research has shown the potential impact of healthy environments to be much greater. So as we look to keep students healthy in the short term, we must also harness opportunities to drive overall student health, performance and productivity through healthy building strategies.



HEALTHY COLLEGES AND UNIVERSITIES IN ACTION

From immediate solutions to assist in a safe reopening to more ongoing and long-term healthy building strategies, leaders in higher education can take a number of actions to improve indoor air quality (IAQ), reduce the spread of infection and transform any campus building into a healthy building.

REOPENING SOLUTIONS




BUILDING RE-USE

COVID residence halls
Upgrade filtration
Increase outside air
Install UVGI lighting



BUILDING IMPROVEMENT

HVAC equipment on demand to reopen quickly and safely
Detailed site evaluations
Ensure system is able to meet new ventilation and IAQ requirements



IAQ AND VENTILATION ASSESSMENT

Test indoor air quality and current ventilation rates

- Particulate matter
- Volatile organic compounds
- Air changes/hour



SUSTAINING HEALTHY BUILDING STRATEGIES



BUILDING OPERATIONS & MAINTENANCE

Retro-commissioning of all building systems
Controls upgrades
Implement new best practices
Ongoing air quality monitoring



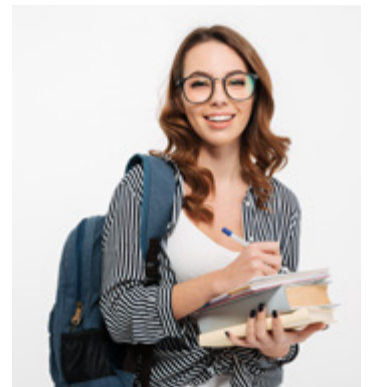
VENTILATION UPGRADE

Increases ventilation rate to reduce indoor pollutants
Increases effective dilution ventilation per person
Improves IAQ and occupant comfort



SAFETY & SECURITY

Provide security solutions and upgrades
Remote monitoring and diagnostics



LONG-TERM HEALTHY BUILDINGS STRATEGIES



BUILDING UPGRADES

Ongoing commissioning of HVAC equipment
Implement best practices
Capital planning for system upgrades



DEVELOPMENT OF NEW METRICS

Monitoring:

- Energy
- IAQ
- Carbon emissions
- Healthy Building indicators

Financing structures



NEW CONSTRUCTION GUIDELINES

Intelligent buildings
New construction certifications
Develop campus-wide IAQ engineering standards



CARRIER HEALTHY BUILDINGS PROGRAM

As the inventors of modern air conditioning and a world leader in HVAC, refrigeration, and fire and security solutions, Carrier has a legacy of creating safe and comfortable buildings. Now we're building on that legacy through the launch of our Healthy Buildings Program. Our experts have in-depth knowledge and experience in higher education and a holistic suite of healthy building technologies and services to address the immediate pandemic concerns and long into the future.

HEALTHY BUILDINGS ASSESSMENTS FOR HIGHER EDUCATION

At Carrier, we understand that many colleges and universities are facing uncertainty with how to move forward in developing a healthy building strategy. Retrofits, modernizations and upgrades must be done with student health and safety as a top priority, while being smart about costs, budgets and future requirements. Our experts are here to help – starting with assessments across various aspects of a building.



INDOOR AIR QUALITY
THERMAL COMFORT
OCCUPANCY FLOW
BUILDING MAINTENANCE
REGULAR HOUSEKEEPING
ENERGY EFFICIENCY

HEALTHY BUILDINGS SOLUTIONS FOR HIGHER EDUCATION

Carrier offers a full suite of products and services designed to help create safe and healthy environments for students, faculty and staff. The following are just a few highlights of our offering.

CARRIER HEALTHY BUILDINGS TECHNOLOGIES

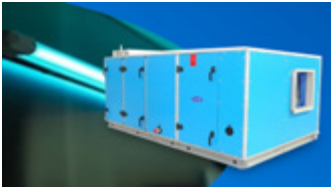
Carrier's Healthy Buildings Program offers customers comprehensive, building-wide technology solutions for today's reimagined environments. In addition to Carrier's comprehensive HVAC, fire, security and controls product offering, the Healthy Buildings offering includes:



OptiClean™ Air Scrubber and Negative Air Machine helps clean contaminated air and prevent it from spreading to different sections of a building, which is critical for infection control.



BlueDiamond™ Touchless Access eliminates a significant number of access touch points through industry-leading mobile credentialing technology.



Advanced Airside Equipment offers air-handling units and fan coil units equipped with advanced filtration designs and germicidal UVC light that provide excellent microbial control and enhanced IAQ features, presenting the perfect balance between a safe and healthy environment, performance and eco-efficiency.



MyWay™ Building Services Mobile Platform integrates HVAC, lighting, elevator and other system controls, touchless access, indoor location and other services for a safer and personalized occupant experience.



Air Purifiers are filtration technologies including various HEPA filters for particulate matter, activated carbon filters for removal of bad odors and volatile organic compounds, photocatalyst filters and UV lamps (with an elimination rate of $\geq 99.999\%$ for pathogens such as E. coli and influenza, tested in Kitasato Institute, Medical Environment Research Center, Japan) to target viruses and bacteria and improve IAQ for an area of up to 4,500 square feet.



DirectKey™ Mobile Access Solution has empowered millions of hotel guests to safely access their hotel rooms without contact by bypassing the front desk check-in and eliminating many traditional touch points in the process.

GET STARTED WITH AN EXPERT

From a safe return to campus to ongoing enhancements to student health and performance, a healthier future starts indoors. Let's work together to unlock the enormous potential of healthy colleges and universities. Visit us at carrier.com/healthybuildings to learn more about our Healthy Buildings Program and connect with one of our experts.



HEALTHYBUILDINGS

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