Perkins&Will

Return to Campus Road Map

May 29, 2020 V.1.2

In a time of uncertainty, we are here to support you as your institution navigates unprecedented change.

Drawing best practices from our own expertise, along with guidance from the World Health Organization and other leading experts, we have created this guide to help you return to campus safely.

01 —— Campus Planning

The most important question being asked on campuses right now is whether and how to reopen this fall. How many people can you safely support on campus? To what extent will remote activities be needed to be fully operational? Perkins and Will experts in campus-wide facilities planning can help you find the right strategy. Whatever the solution, our approach will result in a flexible plan to support a healthy and resilient campus.

02 —— Academic Learning Spaces

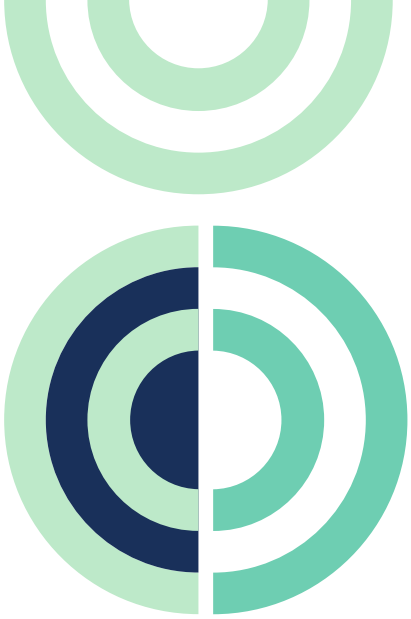
The immediate transition to online learning proved the viability of a more technology-focused classroom. Campuses now need to consider the appropriate strategies to transition to the "new norm." Dynamic campuses can embrace the "both/and" approach, leveraging the face-to-face component needed to build community and trust while introducing virtual connection to accommodate students and faculty needs. Exploring a variety of options will build skill sets and help address challenges with an eye on the future.

03 —— Health Sciences and Medical Education

As healthcare providers face the humanitarian tragedy of the COVID-19 pandemic, the demand for qualified care providers has increased while campuses are shut down; Health Sciences and Medical Education Institutions are responding to how this might adjust training for the future healthcare provider.

04 —— Residential Life

The COVID-19 pandemic disrupted the concept of campus as we know it overnight. Colleges and universities are grappling with a new reality, while trying to plan their recovery and the return of students to campus. Housing and operations will change, but how will that affect residential life? We offer a potential road map for bringing students back into residence halls.



05 —— Student Life

Student life buildings are where a campus comes together as a community. In a post-COVID world, the idea of coming together and gathering will be redefined—if only temporarily—and will have profound implications on the use of student life spaces. This road map offers guidelines based on public health directives for recalculating the spatial metrics of a student life building in a broad range of spaces, including dining halls, lounge space, ballrooms, theaters, meeting rooms, work areas, and retail spaces.

06 —— Library Resources

A global pandemic has shifted the way we think about "coming together" as communities of problem solvers. For the moment, distancing defines our resilience. But how will learners regather? What will the culture of resource-enabled scholarship look like? The abrupt shift to digital platforms has accelerated many trends libraries were not yet ready to fully embrace: hybridized online learning, shift to virtual resources, and remote staffing models. Can we put the genie back in the bottle, or is the future of our libraries forever changed?

07 —— Teaching Labs

Quality instructional laboratory space, forever in high demand on campus, is under pressure to support student's Return to Campus, now more than ever. Colleges and Universities must provide safe laboratory environments for their students and faculty. Meeting this demand may begin to dictate how many students can come to lecture, potentially impacting enrollment in STEM disciplines. However, laboratories are equipped with systems that inherently make unsafe processes safe. These spaces can a model for addressing the immediate and long-term priorities for the laboratories.

08 —— Workplace

A safe, phased repopulating of campus will focus on a limited number of students, faculty, and employees returning first, and then be followed by increases in population density as social distancing restrictions are maintained, modified, or lifted. To gauge the variety of personal situations that will affect the rate of return, the relative level of "readiness for return" will be informed by decision modeling, surveying, and capturing feedback from all stakeholders.

09 —— Athletics and Recreation

Well-designed collegiate sports and recreation spaces support, embrace, and empower a wide variety of users and students. As generators of physical, mental, and social well-being, these centers must serve a diverse student population and be thoughtfully designed to evolve over time. The post-COVID world will indeed challenge this adaptability, both in programming and in design.

01 —

Campus Planning

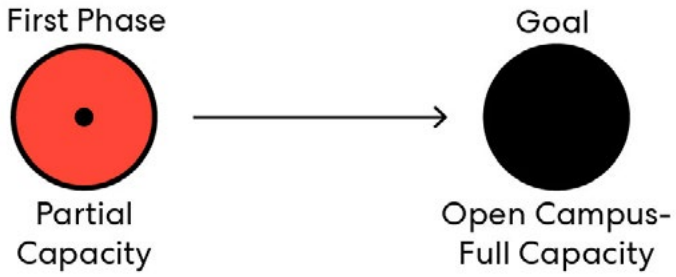
The ultimate goal is to resume full operations—in delivery of programs, services, and work. With our understanding of COVID-19 changing every day and so much still unknown, the approach needs to be nimble, flexible and allow for a variety of future conditions.

Conditions will change based on evolving understanding of the virus and how to respond, the availability of testing and treatment, and of course, the possibility of a surge returning. To be ready, campuses need to consider a range of strategies, each of which allow for shifts as the situation develops. The key is asking the right questions and working to determine the right answers for your campus. To start:

Two potential approaches to consider, each with its own set of questions include:

1. **Full operations with use of social distancing and remote learning.**
   - **What is campus capacity and the resultant need for remote activities in:**
     - **Classrooms**
     - **Housing**
     - **Recreation**
     - **Classlabs**
     - **Dining**
     - **Work**
2. **Full operations with managed cohorts (Immune, Not Immune, Quarantined for 14 days):**
   - **What is campus capacity?**
   - **What are transitional campus capacities and how to transition as the Immune cohort grows?**
   - **How to implement quarantine on campus?**

Approach 1: Fully operational with social distancing



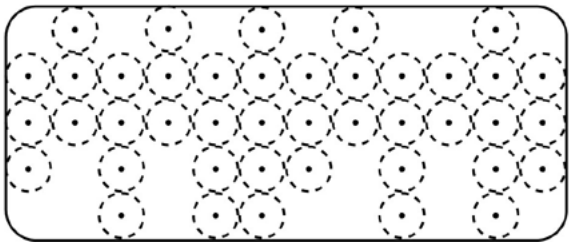
1a: Fully operational with distancing throughout

The first phase will have significantly less capacity with 6-foot distancing for all activities. When the pandemic fades. capacity can increase.

How many can safely return?

What are strategies for remote learning?

- Alternating attendance?
- Full-time remote / full-time In person?



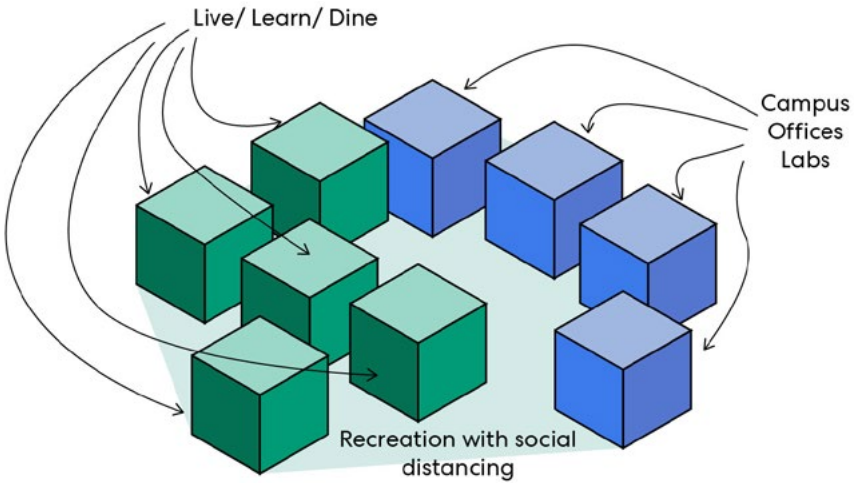
1b: Fully operational with shelter-in place

The first phase will have less capacity with shelter-in-place. Commuter students will need to remain at home.

How many can safely return?

What are strategies for remote learning?

- Alternating attendance?
- Full-time remote / full-time In person?

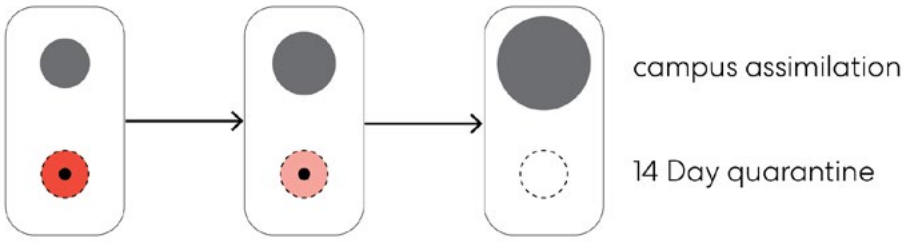


Approach 2: Fully operational with managed cohorts

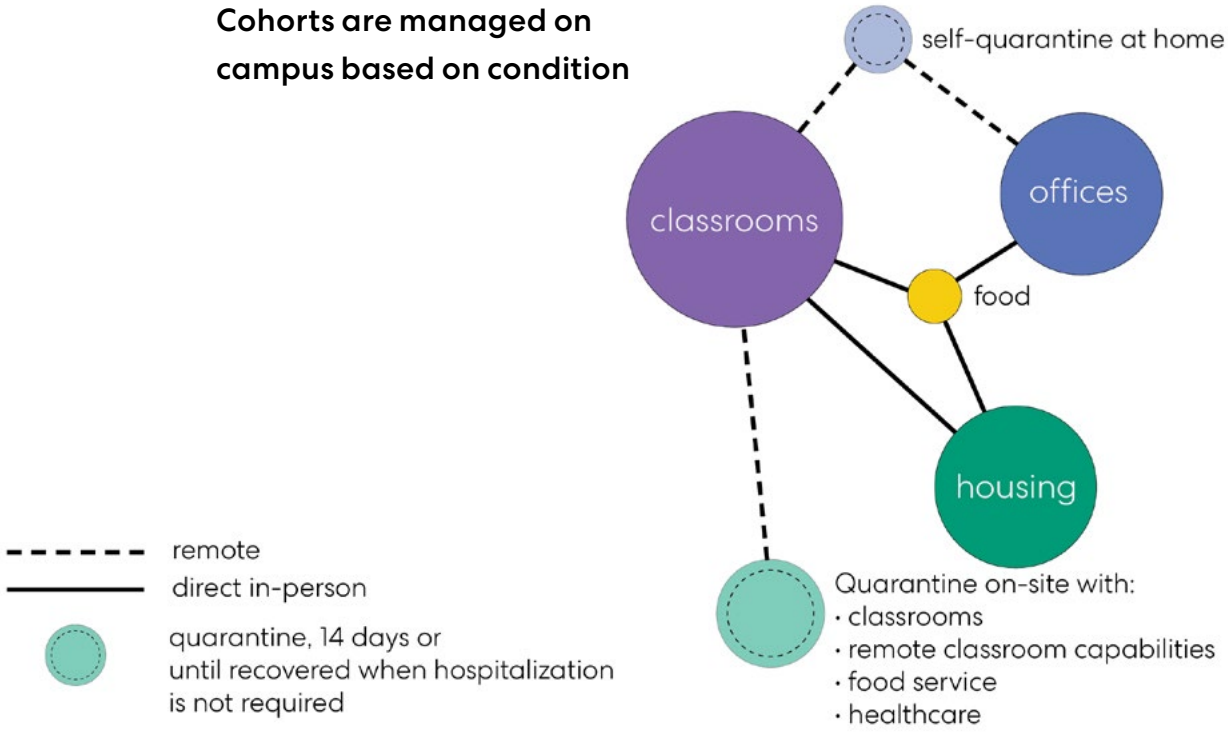
2a: Testing for the virus is in place, easy to implement and can happen regularly

In this scenario, it is both feasible and affordable to determine who needs to quarantine. Quarantine happens on campus with full remote services for the required 14-day period. Students don't have to return home.

Assimilated campus community grows over time



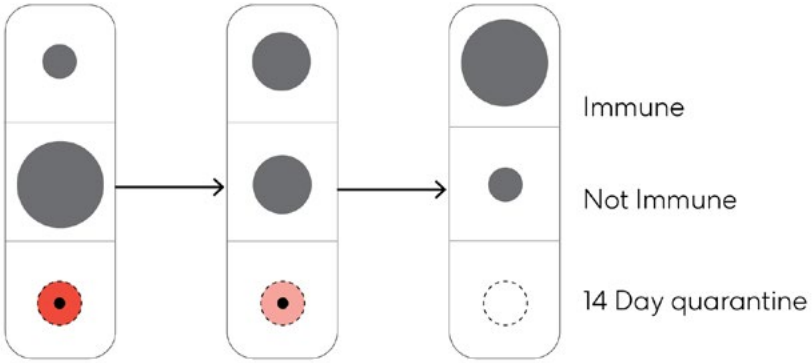
Cohorts are managed on campus based on condition



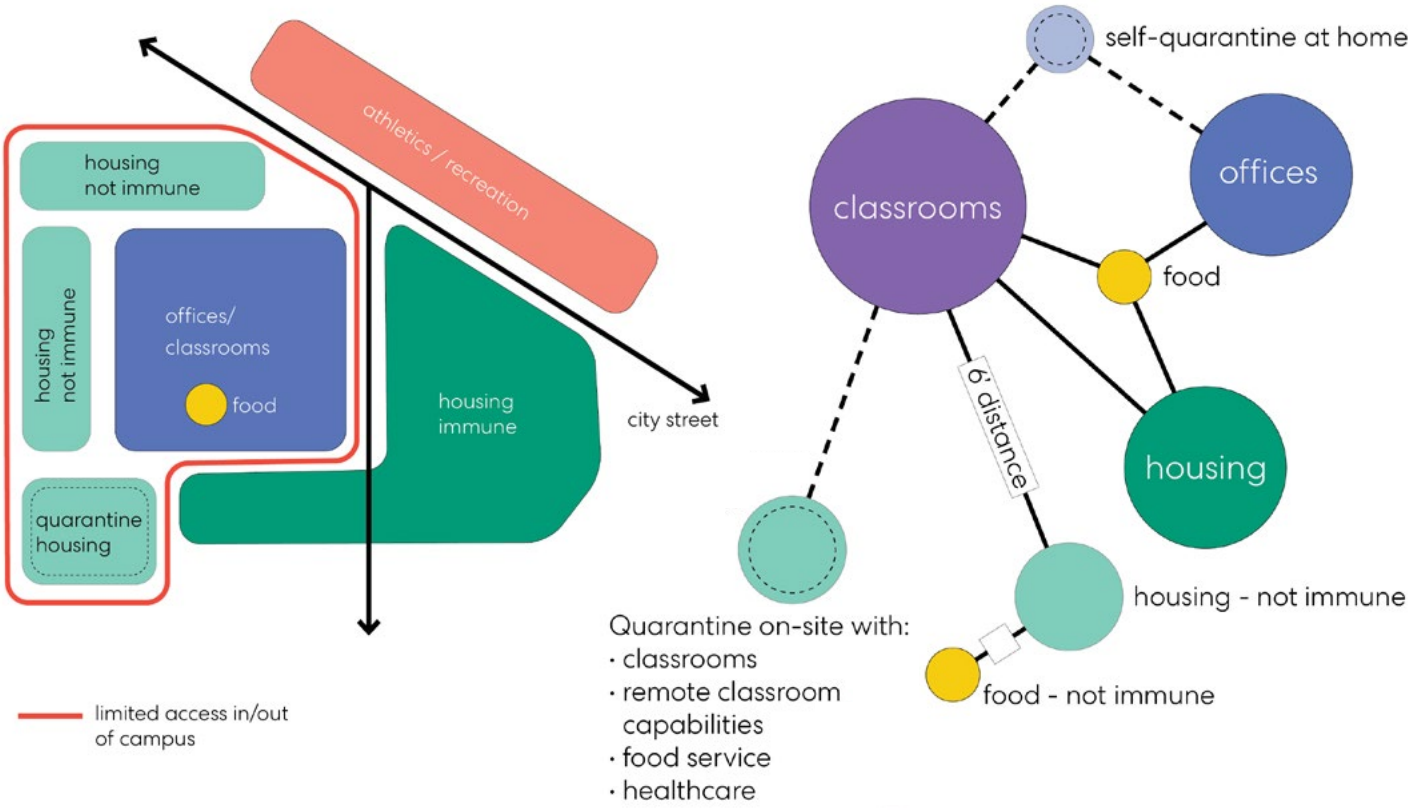
2b: Testing for both virus and antibodies is in place, easy to implement and can happen regularly

In this scenario, it is feasible and affordable to determine who is immune and who needs to quarantine. Quarantine happens on campus with full remote services for the required 14-day period. Students don't have to return home.

Assimilated campus community grows over time



Cohorts are managed on campus based on immunity, non-immunity and symptoms



02 —

Academic Learning Environments

To successfully return to learning, campuses will need to embrace the full range of learning spaces—from traditional classrooms to active, project-based environments and adaptive learning spaces, to leveraging the latest technology for hybrid virtual curricula, instant feedback, and immersive simulation environments.

- As many institutions converted to the online learning model overnight, the transition back to campus may entail a hybrid model. We encourage clients to consider integrating real-time, face-to-face learning with virtual learning, as mentorship via a human connection has been shown to foster student success.
- Upon return, campuses will need de-densify buildings with classrooms according to CDC standards, as well as assess technology requirements. Methods for achieving de-densification of the building—including corridors, study spaces, workplace, and social connectors—include staggered class start times, alternated weekly attendance, and extended time between classes to allow for appropriate queuing in and out of the room.
- Institutions will need to re-purpose spaces, including converting underutilized classroom-adjacent program space to interim learning spaces to accommodate course demands. In addition to re-assessing space use, there may be a need to re-assign staff to support all students. Consider pairing teaching assistants and residence hall directors to help faculty fully embrace technology, provide adequate curriculum, and offer students the support needed to build community.

While we need to repopulate, we also need to re-imagine. The old norm was not sustainable for so many, especially our vulnerable population. A driver to success will be determining the appropriate balance of learning environments and virtual connections with an eye toward student safety and well-being.

Classroom Planning Study

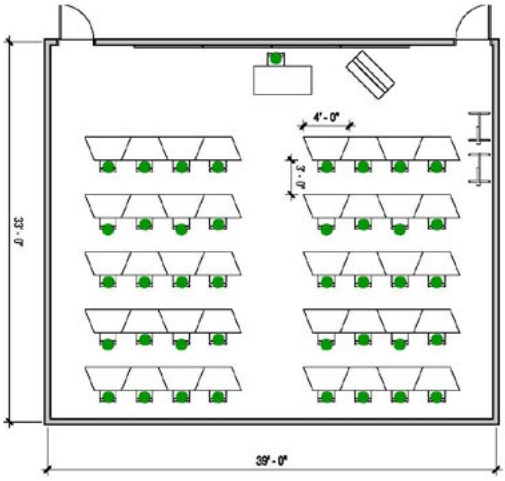
A 6-foot-radius circle is placed at a practical stationary work position (chair location will vary on plans). Diagrams shown are reference examples. Analysis of your specific furniture may differ.

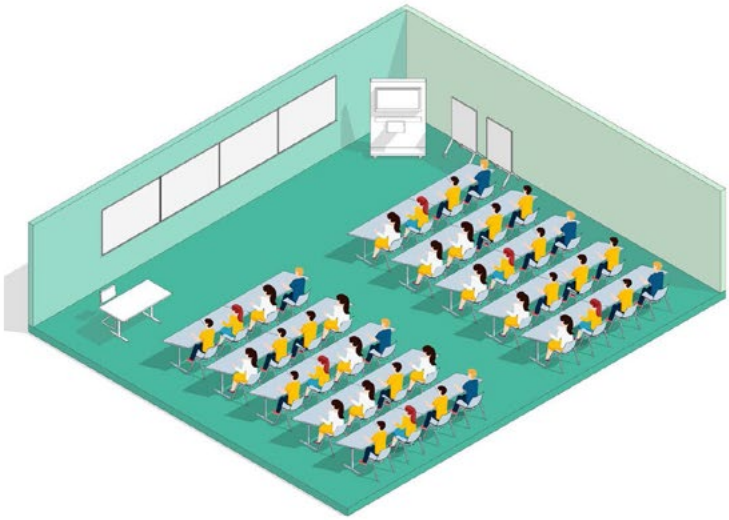
Planning Parameters

- Follow CDC guidelines.
- Maintain 6-foot social distancing while stationary.
- Maintain 6-foot social distancing zones for circulation spaces.
- Chairs are occupied by filling seats furthest from door first.

Small Classroom: Pre-COVID-19 Benchmark

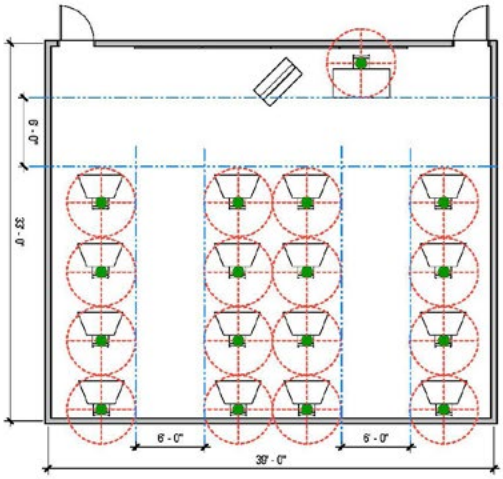
1,250 SF, 40 people, 31 SF/person





Small Classroom: Near Term Social Distancing Planning Strategy

1,250 SF, 16 people, 78 SF/person
60% of students = distance Learning



03 —

Health Sciences and Medical Education

The current pandemic has created a demand for care providers, forcing some institutions to graduate students early. While demand is high, clinical placements have been effected as non-essential procedures have reduced, temporarily impacting new enrollment too. Institutions are assessing clinical placement integration through new partnerships and opportunities for clinics on their own campuses.

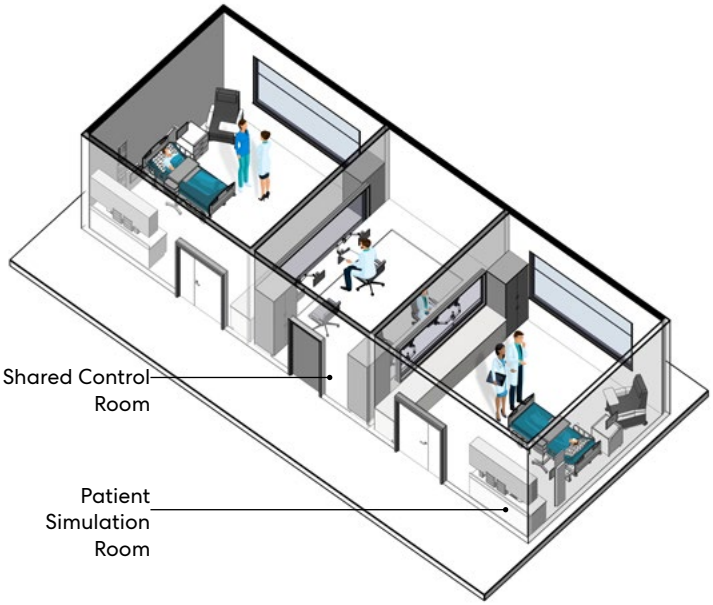
- As the global society responds to the current pandemic, the value of "health promotion" has become evident as a way to protect health. Epidemiology and Public Health will become integral in health science learning as governments and institutions integrate their services for public benefit. Relying on their peers, this increased collaboration and shift from "specialist" to "generalist" will enhance the focus on inter-professional education in Health Sciences and Medical Education curriculum models.
- The shift to use online platforms has created a unique challenge to health science education - a model that requires hands-on training. Research, lab demonstrations, and simulations are tricky to move online. However, educators have been forced to embed technology and online platforms in their curriculum, showing the possibility of a future blended learning model of educational training.
- The highly specialized nature of health sciences makes the the need for educational spaces imperitive. Flexible design and construction will enable rapid space transitions that enable repurposed education environments to adapt to future training needs. This adaptability will need to integrate proper PPE safety, flexible HVAC systems, patient and provider flow, technology enhancements, and multi-disciplinary training capabilities.

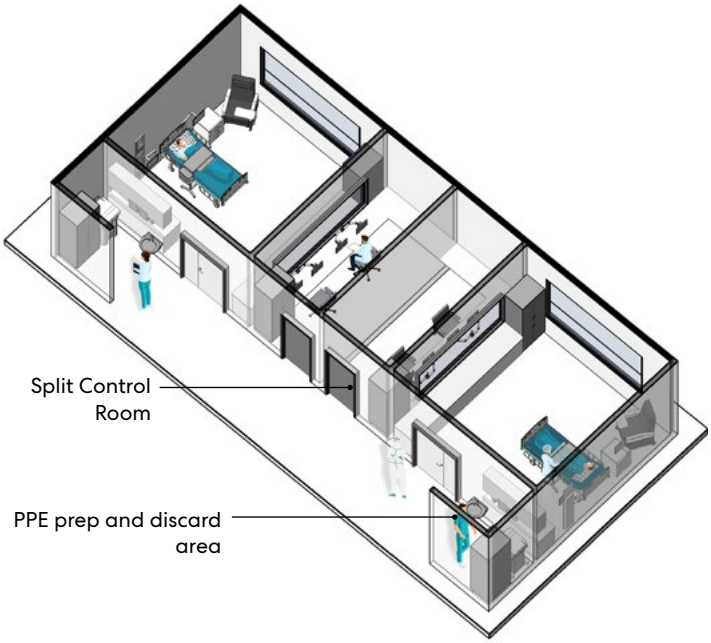
Therefore, training for future health professionals must be nimble to accomodate an ever-evolving occupation. Designing adaptable environments that flex based on shifting needs is more imperative than ever - with a strong emphasis on technological integration.

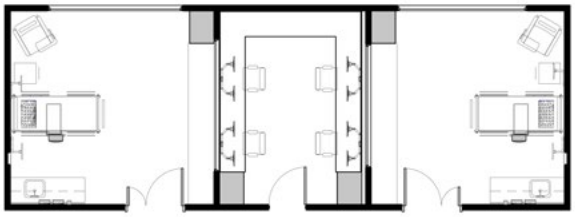
Health Sciences and Medical Education Study

Diagrams shown are reference examples. Analysis of specific projects may differ.

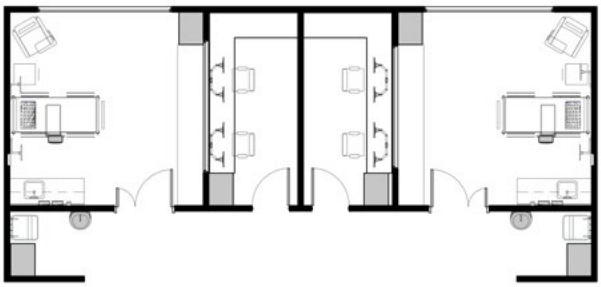
Simulation training strategies:





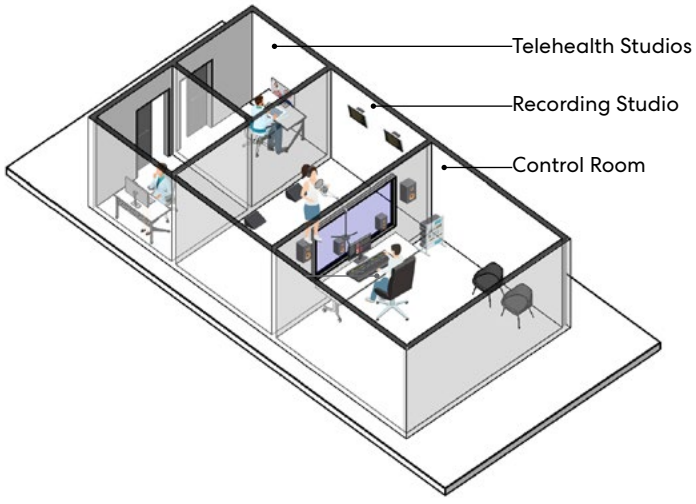


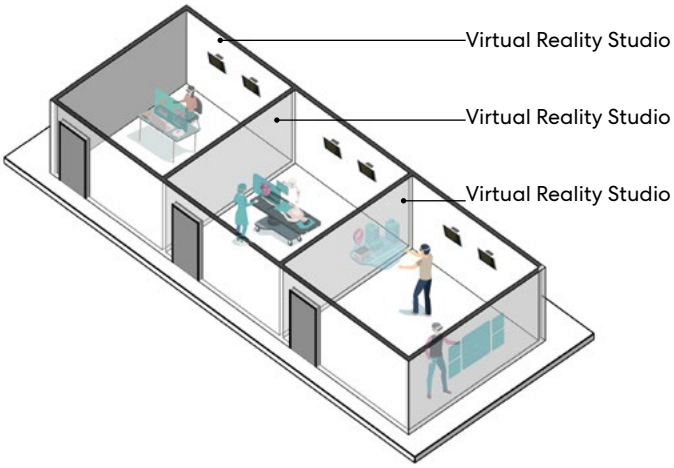
Typical simulation rooms with shared control room



Revised simulation rooms with split control and PPE prep/discard area

Technology strategies:





04 —

Residential Life

Residential life is at a crossroads that may either cripple or enable its phased return. Even with all the mitigation strategies in place for protection, there may still be another strategy that society has tested: social bubbles. Below we share some observations and a takeaway about a return to residential life.

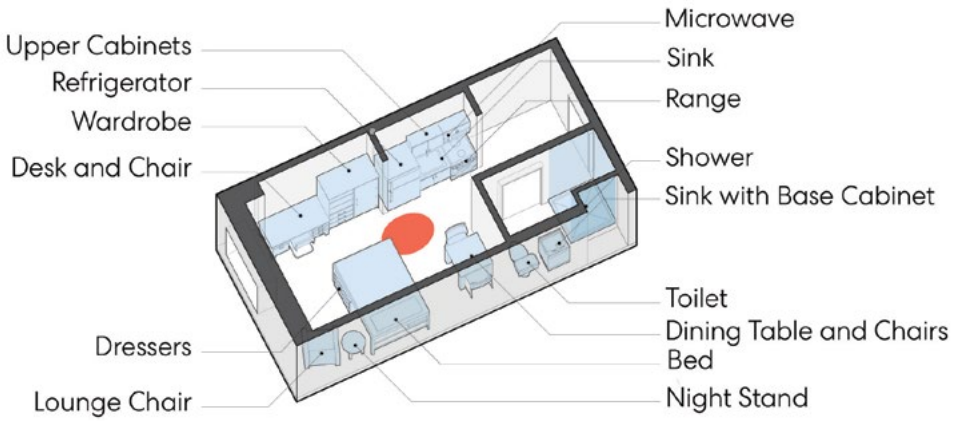
- The ideal residential option is likely the single-occupancy studio.
- Beyond studios and apartments, the most challenging condition is traditional residences with shared washrooms.
- Assessing a high-level loss of beds outlines the potential magnitude
  - Traditional double-occupancy bedrooms on campus account for 25% to 75% of a portfolio.
  - Estimated average of double-occupancy bedrooms is 50%.
  - If those bedrooms transition to single-occupancy, the loss of beds is 25%.
  - University decisions will likely further reduce density on campus.
  - Including these factors, there would be 50% fewer beds on average.
- The amount of vacant space inventory will be significant:
  - Traditional double-occupancy residence halls equal about 225 to 240 GSF/bed.
  - If there are 50% fewer students on campus, the metric could expand to 500 GSF/bed.
- With fewer on-campus student residents, the task is then to identify who returns first:
  - Priority could be given to students with milestones: first year or seniors. milestones: first year or seniors

If these reductions in density persist, there will be significant impacts, necessitating a change in how we engage.

- **The concept of a new community framework called social bubbles appear to have direct relevance in the return to campus.**
- **Social bubbles represent an agreed-upon size of a community that effectively becomes a single unit.**
- **These smaller community cohort structures would clearly require protocols.**

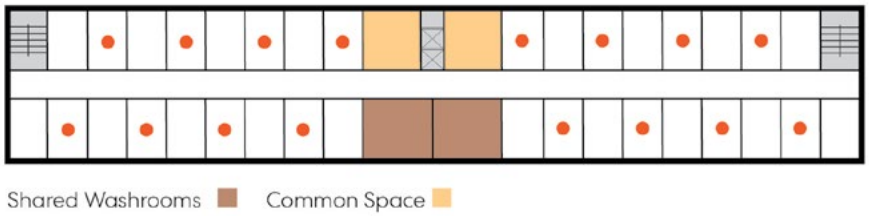
Residential Life Planning Study

Single Occupancy Studio: The ideal option

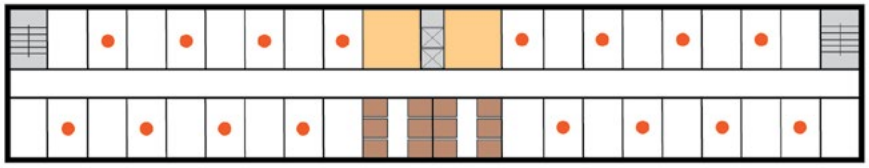


The return to campus road map for traditional residences will rely on multiple strategies.

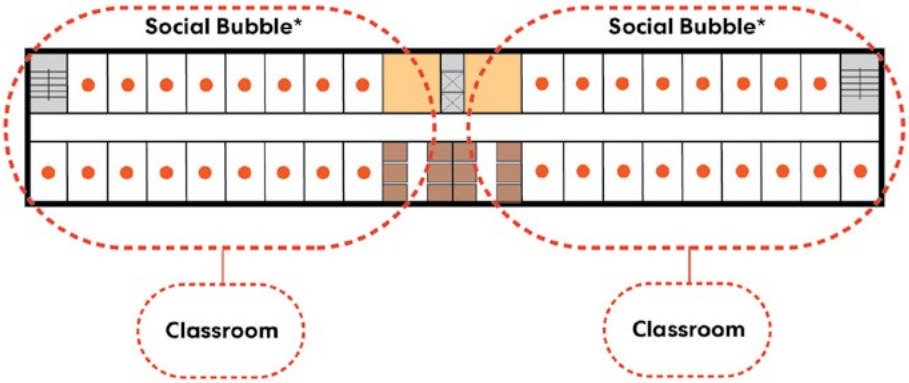
Step 1: De-densify



Step 2: Improved Compartmentalized Shared Washrooms



Step 3: Social Bubbles within Communities Shelter in Place



** the exact size of Social Bubbles has not been determined.*

05 —

Student Life

Not since WWII have we seen such an extraordinary level of disruption to everyday life. Moving forward in a post-COVID world, our society will evolve in unprecedented ways. Student life buildings will be at the forefront of absorbing these impacts.

- Drastic reductions in room and spatial capacity will offer new opportunities to creatively utilize space, set up events, plan programs, and schedule activities.
- As academic functions on campus necessarily "spread out" to accommodate social distancing, they will increasingly look to student life facilities to help meet these new demands. Developing a prioritized system of scheduling and access will become essential.
- As these new space standards are adopted across student life facilities, other ancillary effects will necessitate further changes, including controlling ingress and egress patterns, elevator access and capacity, queuing, furniture configurations, and toilet room usage.
- Operational considerations include physical distancing analysis, procurement and provision of PPE, and occupancy requirements for campus cafeterias while handing food and beverage services. Navigating how to facilitate guests and deliveries on campus, along with reinforcing maintenance protocols, is an equally important component of a safe and healthy return.

Therefore, careful planning will be required to successfully navigate the challenges of transitioning from an event-based facility to an experience-based provider

Dining Planning Study

A 6-foot-radius circle is placed at a practical stationary work position (chair location will vary on plans). Diagrams shown are reference examples. Analysis of your specific furniture may differ.

Planning Parameters

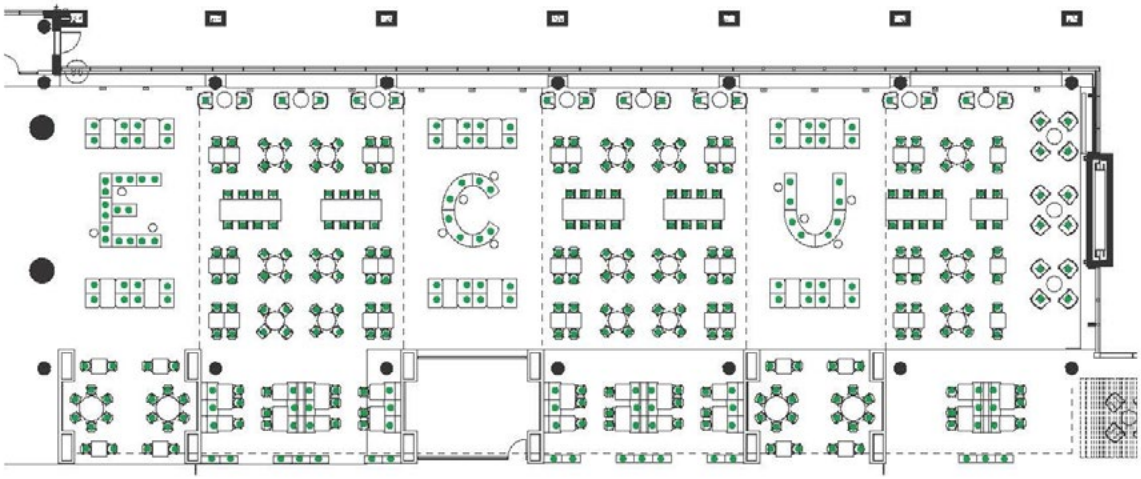
- Follow CDC guidelines.
- Maintain 6-foot social distancing while stationary.
- Maintain 6-foot social distancing zones for circulation spaces

Planning Tactics

- Consider 6-foot-long bolster pillows on large soft seating to create separation.
- Use mobile markerboards or screens to separate spaces

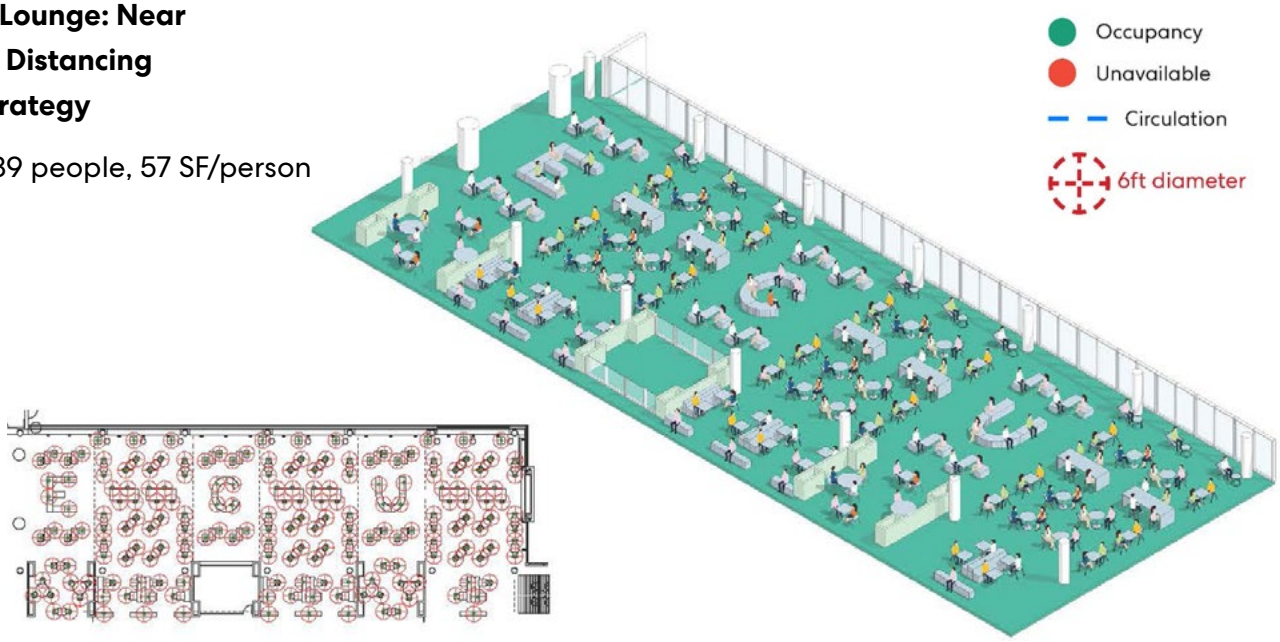
Dining and Lounge: Pre COVID-19 Benchmark

10,900 SF, 459 people, 23 SF/person



Dining and Lounge: Near Term Social Distancing Planning Strategy

10,900 SF, 189 people, 57 SF/person



06 —

Library Resources

What is a high-touch residential college library in a post-pandemic world? While the immediate demand for digital resources continues, spaces must de-densify and expand. New paradigms around service (of knowledge, information and beyond) will emerge, leading to shifting priorities for space allocation and a new relationship between physical and virtual spaces.

- Temporary online instruction will reinforce the value of virtual, open-access materials, accelerating the shift from physical collections to virtual resources. Unique special collections, however, will continue to grow with an increased drive to digitize holdings.
- The online library will be the user's primary first experience with supplementary visits to the physical building only to access in situ resources. Library websites will become less jargoned and more user friendly—organized by what patrons wants versus driven by operational silos. Physical spaces may take cues from their virtual counterparts to reinforce brand and continuity of use.
- Many staff have already shown that they can effectively work remotely. Others will struggle and not return this fall. To be successful, the work-from-home staff will be nimble, tech-savvy and able to learn new communication skills. Mid-level leaders will emerge and think differently about what libraries must do to effectively evolve.
- The "network" quality of library systems that spread across campuses will be studied as an emergency recovery asset that distributes resources across the university community rather than concentrating them in a high-risk cluster.

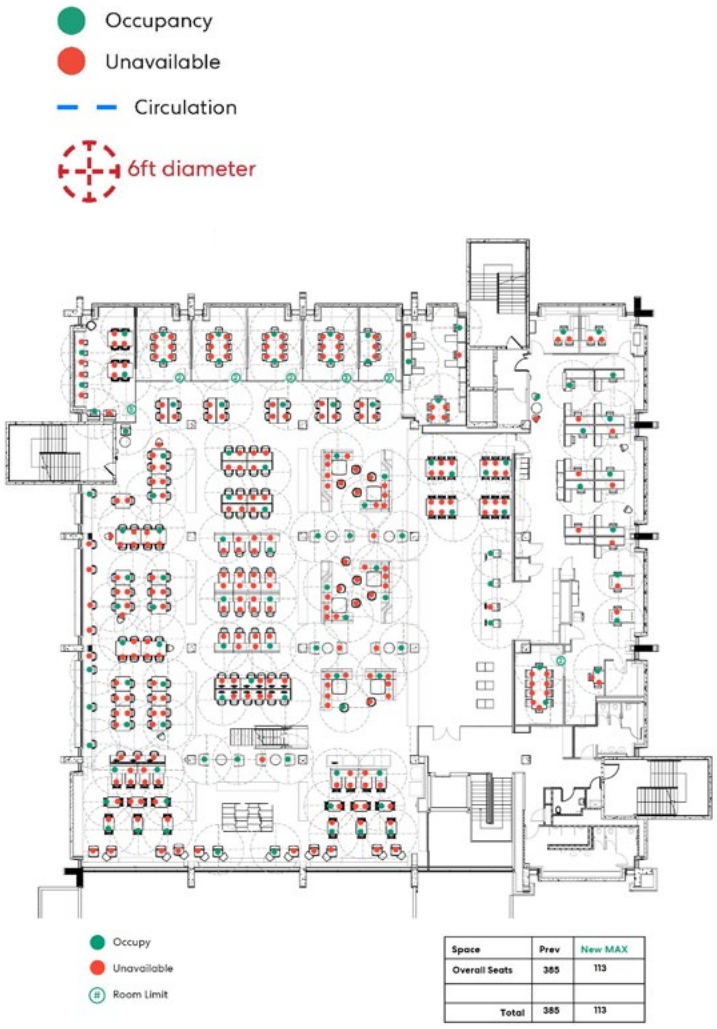
Libraries must revisit their organizational charts, which are historically formed around the journey of the physical book. Customer service models will drive new organizational structures and library spaces will realign to support them. Library systems may also become a core piece of a resilient campus infrastructure to restore normalcy in the wake of future disruptions.

Academic Library Learning Commons Planning Study

A 6-foot-radius circle is placed at a practical stationary work position (chair location will vary on plans). Diagrams shown are reference examples. Analysis of your specific furniture may differ.

Planning Parameters

- Follow CDC Guidelines
- Maintain 6' Social Distancing while stationary
- 6' Social Distancing zones maintained for circulation spaces
- Chairs are occupied by filling seats furthest from door first



Planning Parameters Study 1: Six Foot Distancing Only

- Follow CDC Guidelines
- Maintain 6' Social Distancing while stationary
- Zone in front of blended service counter is left open for 6' queuing of users.
- Original Seating Capacity: 385
- New Max Capacity: 113 (70% reduction)

Planning Parameters Study 2: Primary Circulation Route Incorporated

- Include all parameters used in Planning Parameters Study 1
- 6' Social Distancing zones maintained in primary circulation routes
- Primary circulation is a one-way system to minimize crossover
- Original Seating Capacity: 385
- New Max Capacity: 100 (74% reduction)

07 —

Teaching Labs

Laboratory curriculum requires students to work together to process, analyze, and document assignments. Pairing students increases safety in the lab while making each other accountable for learning the content. With the goal of full operations, more than physical distance is required. The challenge is getting enough students through lab sections to balance lecture capacity. Creative scheduling and detailed resource management will be key. A series of facility assessments will provide the metrics needed to calculate safe population rates for existing buildings.

- Accurate enrollment forecasts will be integral to determining what you build, renovate, re-commission, and de-commission this fall.
- Assessment of all existing laboratories is critical to understanding each lab's ability to support a range of human and chemical densities. Essential characteristics to assess include each space's size, volume, ventilation rates, filtration capacity, existing infrastructure, access to daylight, and natural ventilation, among others.
- Re-commissioning of existing laboratories may be necessary to address immediate demands, while increasing occupant well-being beyond tomorrow. Evidence-based design tells us fresh air, reduced carbon dioxide, and natural light improve cognitive abilities as well as reduce allergens and bacteria in the air. There is a range of possible strategies to improve well-being while making it more difficult for bacteria to survive.
- Virtual laboratory environments can expand laboratory credit opportunities with options including creating university-curated, distance-based lab modules available virtually to all students and subscription-based content.

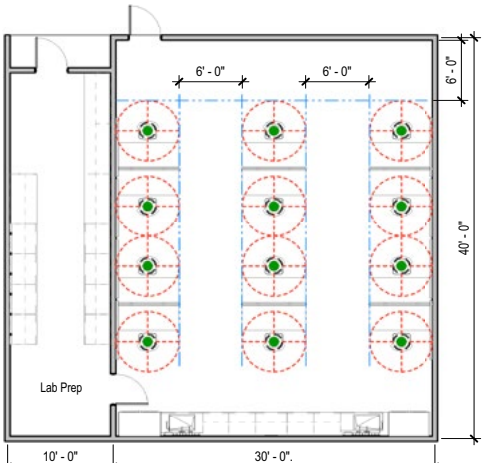
In order to transition to full capacity, creative scheduling and enhanced resource tracking will be central to developing an appropriate response that strikes an equitable balance on campus. Grouping students within the laboratory based on household, social bubble, or neighborhood, while difficult from a scheduling perspective, actually has the potential to get return the lab environment to 100% capacity.

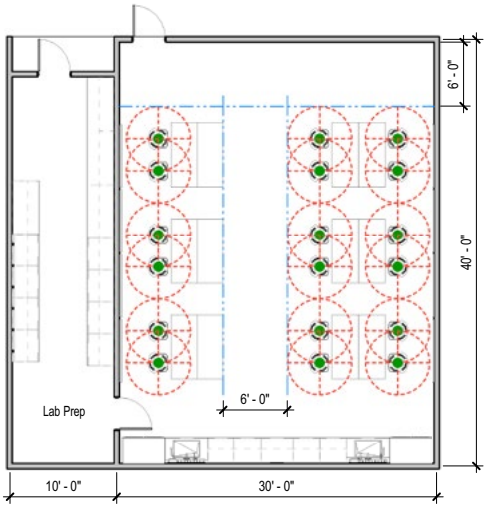
Lab Planning Study

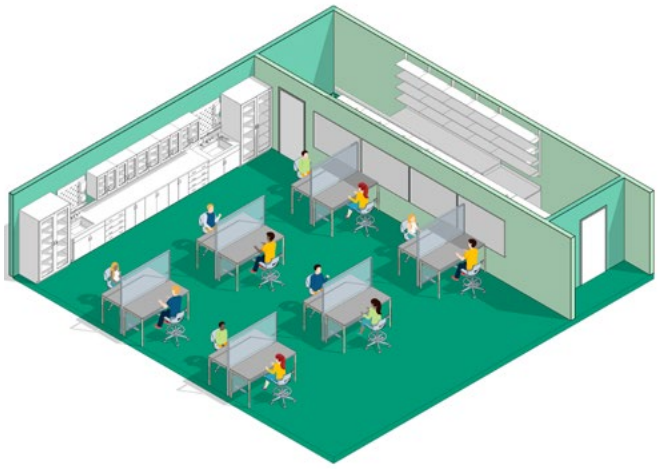
A 6 ft. radius circle is placed at a practical stationary work position (chair location will vary on plans). Diagrams shown are for reference only. Analysis of your specific furniture may differ.

Planning Parameters

- Follow CDC Guidelines
- Maintain 6 ft. social distancing while stationary
- 6 ft, social distancing zones maintained for circulation spaces
- Chairs are occupied by filling seats furthest from door first







A2 - Separated Lab Partners

Small Teaching Lab - 50% Capacity
1,150 SF, 12 People, 96 SF/P

- Students work in pairs per CDC guidelines
- Maintain 6 ft. social distancing while stationary
- 6 ft. clear circulation zones maintained
- Pairs work across tables or with clear divider

A3 - Grouped Lab Partners

Small Teaching Lab - 75% Capacity
1,150 SF, 18 People, 64 SF/P

- Students work in pairs per household
- Pairs maintain 6 ft. distance from each other
- 6 ft. clear circulation zones maintained
- Pairs work across tables or with clear divider*
- *shown without clear plastic divider

08 —

Workplace

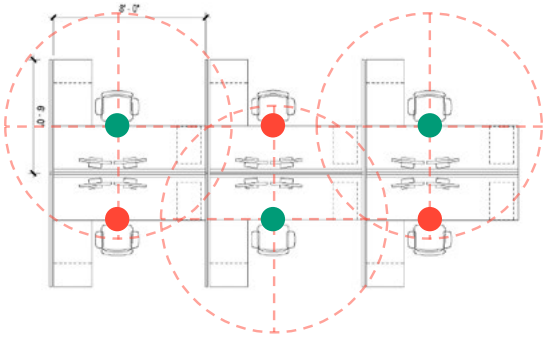
Navigating a road map for safe return to campus requires a multifaceted approach to planning and change. Guidance includes recommendations on employee readiness to return to the workplace, maximum seat capacity in campus buildings based on 6-foot distancing, scheduling scenarios that determine alternative occupancy strategies, prioritizing business needs, and facilitating remote work for flexible and adaptable responses to potential future disruptions.

- Testing protocols will need to consider a wide range of students, administrators, and faculty who travel to and from campus daily. The plan must also take into account the pathways through which each cohort navigates campus, along with requirements for students who reside on campus in residence halls. Testing scenarios may also be augmented by digital tools that can capture information on biometrics, location data, and indicators of infection in a campus community.
- Moving in and out of campus buildings will be guided by engineering controls and best practices in optimizing building facilities—from ventilation to sanitization guidelines, protective equipment, and availability of handwashing stations.
- Additional adaptation will be needed for faculty and administrative offices and the potential impact on face-to-face meetings, office hours, advising meetings, and other student interface, along with conference rooms. Generally, the administration must evaluate how day-to-day activities will be conducted differently, be it limiting room capacity, moving to more virtual meetings, or other tactics.

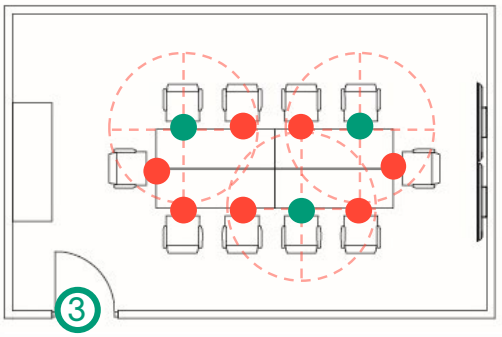
Considerations on physical distancing analysis, operational protocols, suggested behaviors, and campus-wide messaging must be built into every step of the planning phase to provide a safe, healthy, and resilient return.

Workplace Planning Study

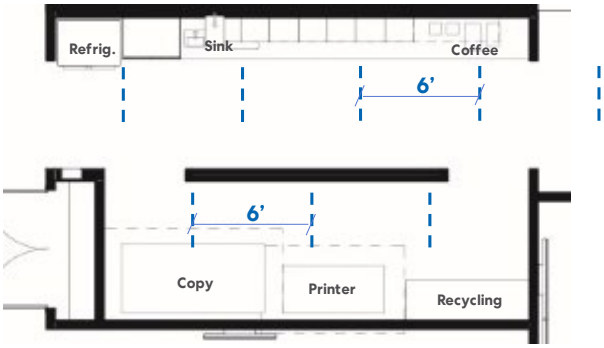
Workstations



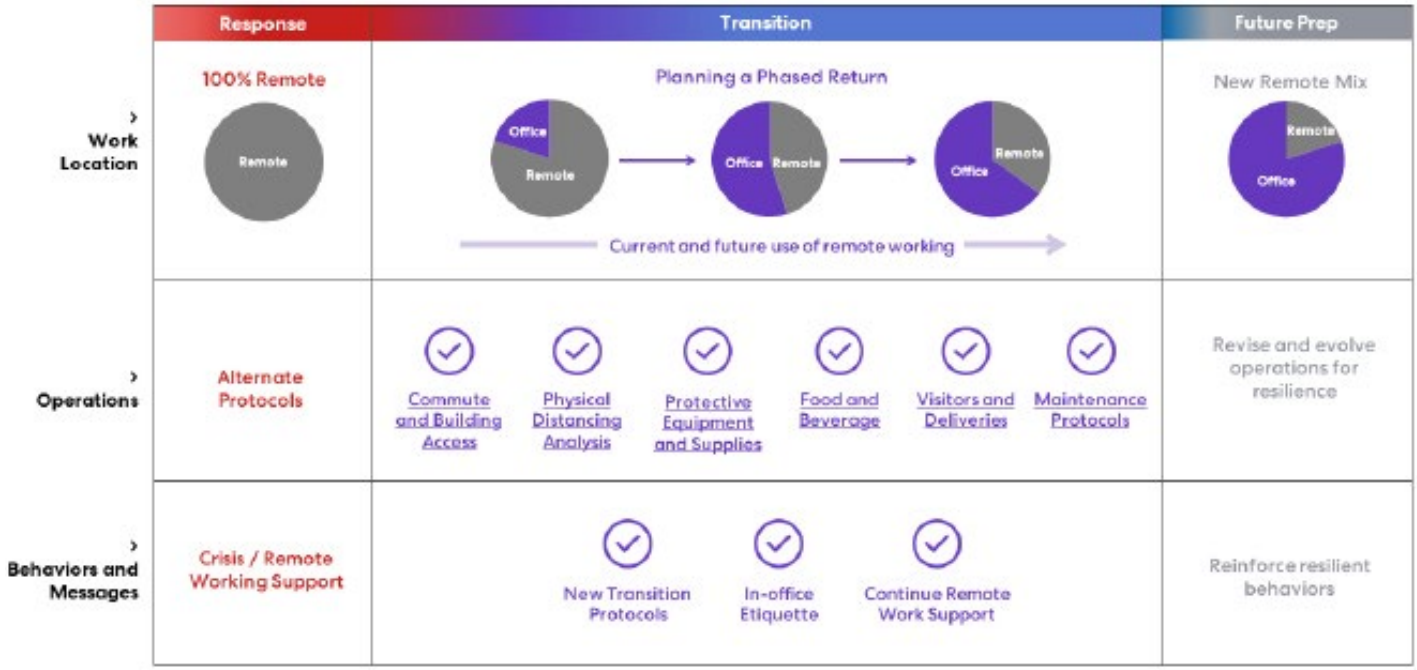
Enclosed Rooms



Shared Amenities



Return to Work Roadmap



Read the Return to Work road map here.

09 —

Athletics and Recreation

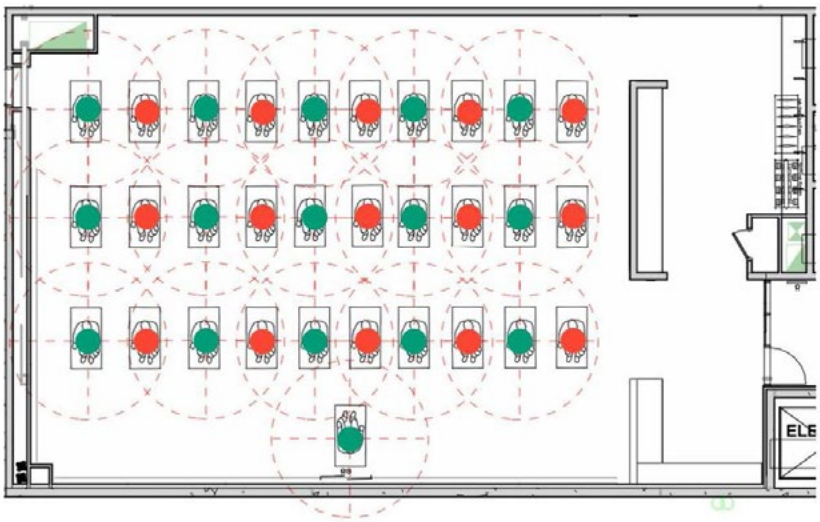
In the post-COVID world, athletics and recreation environments will have to adapt to new social customs and rigorous health practices. Scientific and technological advancements, as well as thoughtful architectural design, will play critical roles in fostering the individual well-being and the social connectedness that these facilities embody.

- In these exertion-based environments, disinfection will be preeminent, creating new protocols as to how to serve the student population in flexible, healthy ways.
- Social distancing may be redefined in these facilities, responding to scientific analysis of the potential spread of viruses in an environment laden with heavy breathing and perspiration, where traditional PPE may be functionally inadequate.
- Virtual delivery of exercise classes or personal training may require the incorporation of more sophisticated broadcast capabilities in a wide range of activity spaces.
- And a new generation of locker rooms may arrive, featuring touchless controls, sophisticated disinfection techniques, and an emphasis on private changing spaces while remaining inclusive.

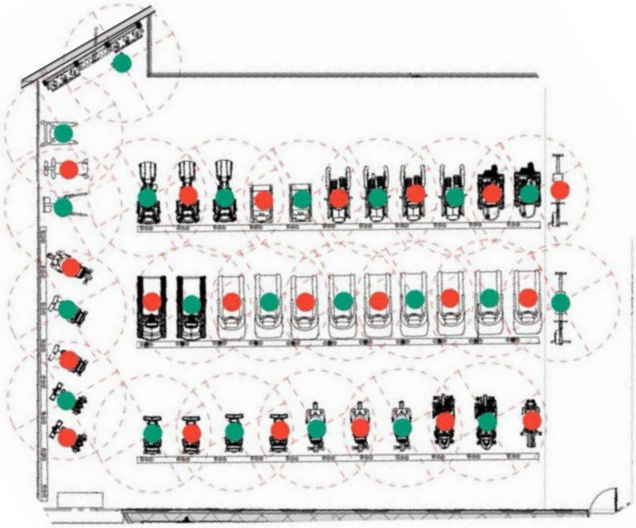
Like the students they serve, successful post-COVID athletics and wellness environments must reach new levels of adaptability, sophistication, and performance, simultaneously reinforcing a campus's valued culture of community and engendering health and safety for every student.

Athletics Planning Study

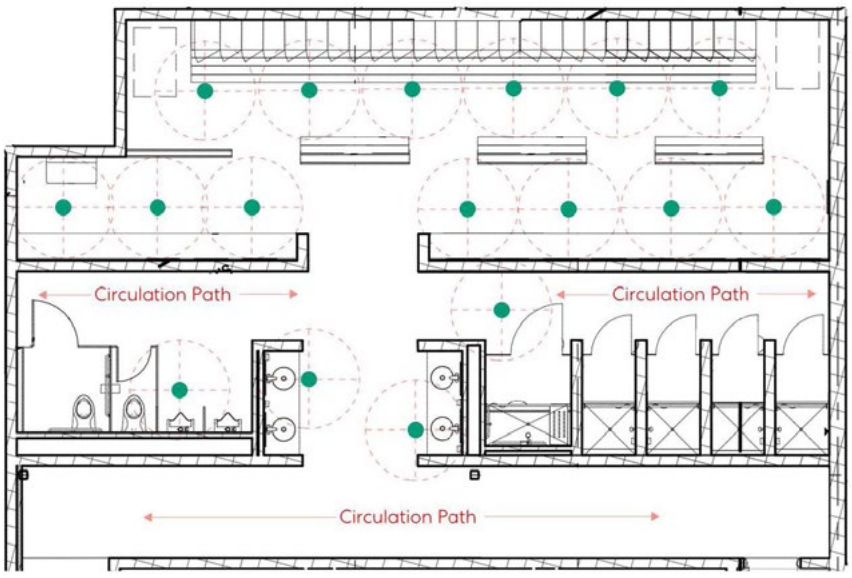
Physical Distance Analysis:
Group Exercise Space



Physical Distance Analysis:
Cardio Space



Physical Distance Analysis:
Locker Room



Occupy
Unavailable
Room Limit
6 ft. Radius

Diagrams shown are reference examples.
Analysis of your specific furniture may differ.

Our recommendations are advisory and intended to assist as you plan for the return to your campus. As guidance is evolving, we urge you to regularly consult with the following sources:

World Health Organization
https://www.who.int/emergencies/diseases/novel-coronavirus-2019

Centers for Disease Control and Prevention (CDC)
https://www.cdc.gov/coronavirus/2019-ncov/index.html

Occupational Safety and Health Administration (OSHA)
https://www.osha.gov/SLTC/COVID-19/

Federal, State, and Local Guidance
https://www.usa.gov/coronavirus or https://www.coronavirus.gov/

Perkins&Will