



Penn
Engineering

Guide for the Safe Return to Campus

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Phased Staffing and Gradual Ramp-up of Research Operations: Overview

Guidelines of phases from the Office of the Vice Provost of Research

The Office of the Vice Provost for Research (OVPR) laid out a Master Plan that describes the Research Resumption Strategy. This section describes information important for Penn Engineering, and borrows or paraphrases language from the OVPR Master Plan. The plan was developed based on two Research Resumption Task Forces, one of which was focused on laboratory and clinical research, and the other on nonclinical human subject studies and community engagement. The plan was also developed in consultation with the Provost's Council on Research, the Provost's Senior Management Group, the Office of the General Counsel, the Council of Graduate Group Chairs, the Council of Graduate Deans, and the Graduate Council of Faculties, in addition to medical experts, epidemiologists, and ethicists. The plan was developed to align with University policy, recommendations from the Center for Disease Control (CDC), as well as mandates from other relevant Federal agencies, the Commonwealth of Pennsylvania and the City of Philadelphia.

The Plan was guided by the need to:

- **Minimize risks**, to protect the physical and mental health and safety of the research community, clinical patients, human research subjects, and the community at large.
- Minimize adverse impact on early stage researchers.
- Sustain the highest levels of excellence in research.
- **Prioritize COVID-19-related research** across all fields.

The plan lays out three phases for the resumption of research activities [see Fig. 1] from the ramp down and limitation of essential activities and personnel that began 5 PM on March 17.

- **Phase I: Increase of prioritized research**, with enforced population density restrictions, not to exceed 20% normal operations in laboratory and research buildings, and telework continued. University sponsored travel will continue to be prohibited until authorized by University policy. Participation of graduate students and postdocs is voluntary.
- **Phase II: Expanded scope of research operations**, increasing the population with social distancing enforced, not to exceed 50% normal operation, and telework continued. General research-related travel is not allowed unless authorized by the University. Constraints on meeting size and use of general space align with university policy. Scheduling flexibility in consideration of childcare, elder care, individual risk factors, etc. is encouraged. Mechanisms should be in place to enable confidential disclosure of concerns.
- **Phase III: Return to full research operations**, with new awareness and hygiene practices as the norm and telework utilized where possible.

The Schools are responsible for developing, in accordance with these guidelines, plans to manage and oversee research resumption, including:

- Evaluation and prioritization of the most important research activities.
- Evaluation and oversight of researchers' resumption plans.
- Management of population density across floors, buildings, departments, and core facilities.

- Establishment of policies on meetings and use of general space that align with University requirements.

Activity	Ramp Down	Phase I	Phase II	Phase III
Population density	<10%	Not to exceed 20%	Not to exceed 50%	100% new normal
Research type	Essential	Essential + prioritized	Approved	All
Travel (per Penn policy)	None	None	Approved field research only	According to university policy
Telework	Most activity done remotely	All that is possible	All that is possible	When reasonable
Hygiene Masks, etc.	Required	Required CDC recommendations	Required CDC recommendations	
Undergrads	No	No	No	Yes
Grad Students Postdocs	Essential only	Voluntary	Voluntary	Yes

Fig. 1 Guidelines for the Phased Resumption of Research Activities from the OVPR's Master Plan

Putting the Research Resumption Strategy Master Plan into Practice

In compliance with the guidelines laid out in the OVPR's Research Resumption Strategy Master Plan, Penn Engineering created contextual guidelines and processes to manage the Resumption of Research Activities in the School. These plans were developed and revised by Penn Engineering's Taskforce for the Resumption of Research, in consultation with the School's Mission Continuity Planning Team and in consideration of suggestions received via Townhalls and various meetings with the School's students, postdoctoral fellows, staff, and faculty.

Resumption of Research Activities: Evaluating and Prioritizing the Most Important Research Activities

Section 1 of 26

Resumption of Research Activities

This form is designed to help research groups plan for resuming research activities and conform to Penn and SEAS guidelines. Principal investigators are responsible for developing resumption plans for their research effort.

Requests must be submitted by Tues 5/26 to be eligible and accommodated at the start of Phase I. Requests will be accepted and approved on a rolling basis, but expect a delay in when you may commence your activities, as time is needed to accommodate your return. Please read each section carefully.

Current: Planning for Phase I research that requires access to on-campus infrastructure with enforced population density restrictions and telework continued. Remote work should be continued whenever possible. Phase I will not commence until we receive notification from the Office of the Vice Provost for Research.

Note 1: Go through the entire form, even if you cannot complete all of the questions (click next), so that your responses are saved and so you receive an email link to edit the form later. Ultimately, you will be required to answer all questions to resume research activities.

Note 2: The "Current" state above will be updated to allow you to edit your plan as restrictions are eased.

Email address *

Valid email address

This form is collecting email addresses. [Change settings](#)

Fig. 2 Penn Engineering's Resumption of Research Activities Form

On May 22nd, Penn Engineering Faculty received the "Resumption of Research Activities" (see Fig. 2 and Appendix A for complete form). The form required PIs to provide justification for returning to campus along with detailed plans for establishing social distancing guidelines in their laboratories, maintaining a safe and hygienic work environment upon returning to campus, and a ramp down procedure in the event of a spike in cases of the virus within our School, the University, or the Philadelphia region. This form is required by May 26, 2020 to commence activities on June 8 and it will be accepted on a rolling basis thereafter. The form will be updated and used for the resumption of research activities in Phase II and Phase III.

Evaluation Process

The Resumption of Research Activities form serves as an organizational tool to aid PIs/supervisors in reviewing and establishing a plan with their groups to follow the Penn Engineering's processes for scheduling personnel; ingress, egress, and eating in designated locations; use of PPE; protocols for hand hygiene; required training and procedures for health monitoring and reporting a confirmed or suspected COVID-19 case to EHRS for contact tracing.

Phase I Justification: Requiring Access to Campus Facilities

Justifications include the need for campus facilities, without which this research cannot be carried out, for graduate students to progress in their thesis research, postdocs to progress in their research training, and faculty/staff and their groups to continue progress on grants that support their research programs. An emphasis is also placed on graduate students or postdocs that need access to campus to finish (e.g. within the next three months) their work at Penn. These justifications must include what on-campus facilities need to be accessed and which granting agencies are supporting these research activities.

Research in Core and Multi-user Facilities

PIs indicate their groups Phase I research activities that require core and multi-user facilities on the Resumption of Research Activities form for facilities to anticipate and work to accommodate the resumption of research activities.

Research Teams and Guidelines

The Resumption of Research Activities form requires PIs to confirm that only activities requiring on-campus facilities will be carried out on campus and that any work that can be carried out and all meetings will continue remotely. To maintain social distancing, research teams are recommended to work in at least two teams, while still requiring that no researcher work alone. All lab members contact information is shared amongst the group as communication between lab members is very important during this phase. A shared calendar/scheduling system for equipment and laboratory space use is required for all labs. CETS is available to provide support for labs needing help in setting up a calendar system.

Approval Process

All completed applications for the "Resumption of Research Activities" in Phase I are reviewed by the Dean's COVID-19 Oversight Committee. In addition to providing justification, PI's provide a list of personnel who opted-in (*undergraduate students were not permitted in this Phase I*) and a schedule of these personnel that would allow for establishing social distancing in their lab spaces.

PI's whose justification do not meet the requirements of Phase I guidelines are denied. If the committee approves of a PI's justification, but required information is missing, the committee informs the PI of the required revisions. Resumption of research activity requests are approved only when all requirements are satisfactorily completed according to the guidelines for a

Resumption of Research. Once plans are approved, PIs/supervisors are informed with indication to submit the Penn EHRS Resumption of Research Notification (<https://ehrs.upenn.edu/covid-19/resumption-research-notification>).

Animal Research

Social-distancing plans for animal work being brought back to the lab:

- PIs will be required to develop their own social-distancing plan for their lab.
- These distancing plans need to be coordinated with other laboratories on the same floor, suite, or other defined "functional unit" of laboratory. This should include coordination with University Laboratory Animal Resources (ULAR) to enter a vivarium to pick up animal(s) from a housing room.

Individual lab plans and "functional-unit" plans will to be approved through the Research Resumption process in the school. Working groups should be developed to facilitate communication among the labs. Only work that needs to be done in wet space should be conducted; all work that can be done remotely should still be done remotely.

Use of shared ULAR vivarium space will be coordinated with laboratory staff and ULAR. ULAR currently posts [electronically and/or on vivarium rooms] scheduled ACT (animal care technician) work [cage changes etc.]. During these times, the housing room should not be entered while ACTs are working in the room.

An electronic calendar will be used so that laboratory staff can access shared space safely with other labs, ULAR ACTs, veterinarians, and vet techs.

As described elsewhere in more detail, PIs will be responsible for developing work-shift rotations that should follow University/School guidelines with the understanding that different research programs may need different rotation schedules. The allowable workday for shift schedule will be from 7AM-11PM, seven days per week.

PIs should be sensitive to student and staff issues that surround personal life [e.g., child and family care, use of mass transportation, etc.] during the COVID-19 pandemic. Please consult your Human Resources professional contact for additional information and help.

The expectation is that researchers will disinfect areas before they start work and when they are done working. This includes disinfecting door handles as they exit a room.

Researchers are encouraged to continue to look for communications from ULAR for updated information and processes

Ongoing Oversight of Researcher's Resumption Plan

In accordance with University guidelines, any personnel with suggestions for improvements or concerns about social distancing should contact their supervisor/research director, department, or building administrator.

Personnel can also submit suggestions for improvement or report noncompliance to <https://secure.ethicspoint.com/domain/media/en/gui/22868/index.html>

Confidential and anonymous reports can be made through the 215-P-COMPLY phone line or in a web form (<https://secure.ethicspoint.com/domain/media/en/gui/22868/makeareport.html>).

In addition to these university resources, Penn Engineering also created the Covid-19 Research and Academic Safety Reporting Committee to provide a path for individuals to express their concerns about practices and observations that might place others at risk during any phase of the research resumption period. Details about Penn Engineering's Covid-19 Research and Academic Safety Reporting Committee is found at <https://research.seas.upenn.edu/reporting-committee/>

Ramping Down Research if Another Surge Occurs

In the event that the government, administration, or Penn Engineering requires a quick ramp down of research activities within one of more of our buildings or across the university because of a spike in infections, PIs must submit a plan to safeguard personnel and laboratory materials and equipment. In the plan, PIs are asked to describe how they would quickly ramp down their research activities and what essential activities would be required for safety.

Restarting Core Facilities and Services

In accordance with the OVPR's Research Resumption Strategy Master Plan, Core facilities contemplating the resumption of research must develop a *facility resumption plan*, which answers essential operational questions during Phase I. Penn Engineering core facility supervisors, in consultation with staff, fill out the same Resumption of Research Activities Google Form above. The form specifically includes a justification for core facilities that support Phase I prioritized research and addresses guidelines for maintaining the safety of research teams and staff. These facilities include:

- The **Singh Center for Nanotechnology**, and its labs the Quattrone Nanofabrication Facility (QNF); the Nanoscale Characterization Facility (NCF); and the Scanning and Local Probe Facility (SLPF).

The Singh Center will begin on May 22, 2020 to restart operations to prepare for a June 8, 2020 re-opening. Preparations require staff and vendors to restart instrumentation. Consistent

with social distancing guidelines, PPE, and cleaning guidelines, the Singh Center developed caps on the number of staff and users in each lab as well as disinfection timelines and processes.

- X-ray scattering in the LRSM
- Departmental laboratories

Opt-in Process for Graduate Students, Postdoctoral Fellows, and Staff:

Voluntary Return in Phase I

Phase I is voluntary and no person should be pressured to return. The “Resumption of Research Activities” form is accompanied by a spreadsheet containing the names of all graduate students, postdocs, and staff who independently selected to opt-in for returning in Phase I (see next section on graduate students, postdocs and staff below).

Graduate Student Resumption of Research

On May 15th, all Penn Engineering Graduate Students received a form for the resumption of research (see Fig. 3 and Appendix B for complete form) to be completed only if their research required access to campus facilities, according to Phase I guidelines, and only if they chose to opt-in. This form will be accepted on a rolling basis. The information of those who chose to opt-in is then provided to PI’s approved to resume research in Phase I.

Graduate Student Resumption of Research Activities

Thanks for filling out this form and working under the guidelines to resume your research activities.

Current: Planning for Phase I Research that requires access to on-campus infrastructure with enforced population density restrictions and telework continued. Remote work should be continued whenever possible. Phase I will not commence until we receive notification from the Office of the Vice Provost for Research.

Please answer the short questions below. It will be reviewed for compliance and justification for prioritized research, and either approved, with instructions for next steps, returned for revision, or denied.

Responses must be submitted by Thurs 5/21 to be eligible and accommodated at the start of Phase I. Responses will be accepted and approved on a rolling basis, but expect a delay in when you may commence your activities, as time is needed to accommodate your return.

Note 1: You will receive an email link if you want to edit the form later.

Note 2: The "Current" state above will be updated to allow you to edit your plan as restrictions are eased.

Email address *

Valid email address

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Fig. 3 Penn Engineering's Graduate Student Resumption of Research Activities Form

Postdoctoral Researcher Resumption of Research

On May 15th, all Penn Engineering Postdoctoral Researchers received a form for the resumption of research (see Fig. 4 and Appendix C for complete form) to be completed only if their research required access to campus facilities, according to Phase I guidelines, and only if they chose to opt-in. This form will be accepted on a rolling basis. The information of those who chose to opt-in was then provided to PI's approved to resume research in Phase I.

Postdoc Resumption of Research Activities

Thanks for filling out this form and working under the guidelines to resume your research activities.

Current: Planning for Phase I Research that requires access to on-campus infrastructure with enforced population density restrictions and telework continued. Remote work should be continued whenever possible. Phase I will not commence until we receive notification from the Office of the Vice Provost for Research.

Please answer the short questions below. It will be reviewed for compliance and justification for prioritized research, and either approved, with instructions for next steps, returned for revision, or denied.

Responses must be submitted by Thurs 5/21 to be eligible and accommodated at the start of Phase I. Responses will be accepted and approved on a rolling basis, but expect a delay in when you may commence your activities, as time is needed to accommodate your return.

Note 1: You will receive an email link if you want to edit the form later.

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* Required

Fig. 4 Penn Engineering's Postdoctoral Researcher Resumption of Research Activities Form

Staff Resumption of Research

On May 15th, all Penn Engineering staff received a form for the resumption of research (see Fig. 5 and Appendix D for complete form) to be completed only if their job details required/supported on-campus activities, according to Phase I guidelines, and only if they chose to opt-in. This form will be accepted on a rolling basis. The information of those who chose to opt-in was then provided to PIs/supervisors approved to resume research in Phase I.

Staff Resumption of Research Activities

Thanks for filling out this form and working under the guidelines to resume your research activities.

Current: Planning for Phase I Research that requires access to on-campus infrastructure with enforced population density restrictions and telework continued. Remote work should be continued whenever possible. Phase I will not commence until we receive notification from the Office of the Vice Provost for Research.

Please answer the short questions below. It will be reviewed for compliance and justification for prioritized research, and either approved, with instructions for next steps, returned for revision, or denied.

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Fig. 5 Penn Engineering's Staff Resumption of Research Activities Form

Matching On-campus Research Activities with Social Distancing and Hygiene Requirements:

Managing Population Across Floors, Buildings, Departments, and Core Facilities

Social Distance Guidelines for Lab Spaces

Penn Engineering social distance guidelines require >200 square feet per person in a space larger than 200 square feet. If the lab is or is subdivided into rooms <200 square feet, guidelines require no more than one person in the space (and a plan for a nearby buddy, so no one is working alone). This exceeds the 6 ft. social distancing guidelines by a factor of five. All PI's included in Phase I were sent floor plans for their lab space(s) to help guide their plan development and were asked to consider furniture, equipment, and traffic flow in developing social distanced plans.

According to government recommendations, social distancing requires at least 6 feet of spacing between people during all activities. This includes shared lab spaces. Floor markings should outline at least 6 feet of distancing around workstations, lab benches, and tables and indicate directions of pedestrian movement. Frequent hand washing should be the culture. Facial coverings should be used at all times and, depending on the type of research, relevant PPE should be employed (see EHRS Resumption of Research for Labs COVID-19 Training found in KnowledgeLink).

During Phase I, approved researchers and personnel will enter buildings through designated locations and must complete each day the health checklist and procedure in place before entry to building. Penn Engineering buildings are open daily from 7 am – 11 pm. Deep cleaning will be done daily between the hours of 11 pm and 7 am. All students, staff and faculty must wear a Penn provided mask that covers the face and nose at all times when on campus (masks will be distributed at designated building entries), must wash their hands at least once per hour using soap/water or hand sanitizer and after being in a public place or blowing one's nose, coughing, or sneezing, and must notify their PI/lab manager, consult a healthcare provider, and report a confirmed or suspected COVID-19 to EHRS for contact tracing (215-898-4453).

Floor Plans

Floor plans of all approved PI lab space(s) indicating the lab's name, work hours, and maximum density are displayed outside of each lab operating during Phase I. The respective labs are highlighted on each floor plan, with red dots indicating the number of personnel allowed at one time. Penn Engineering has records of all these floor plans.

Building Access

We designed our plan for returning to campus buildings with the safety of trainees, faculty, and staff at the forefront. Prior to June 8, we will disable all PennCard access to buildings throughout the engineering campus, including Levine, Graduate Research Wing, Moore, Towne, Hayden, LRSM, Singh, Skirkanich, 3401 Walnut, and the Pennovation Center. In place of card access, we will create five separate entry points for access: LRSM, Singh, Levine, Hayden, and Pennovation. At the current time, we do not have trainees returning to 3401 Walnut. None of the building exits will be restricted for use, allowing occupants to safely exit the building in case of emergency. The entry points will be staffed by either Penn Engineering staff or security personnel.

Our system for entering a building in the complex will consist of three steps. As a first step, individuals that will enter a building on campus will use a web-based process to acquire an entry pass to the complex. The entry pass will contain an electronic code that will be valid for entry to the complex during the working hours of a specific date. As part of acquiring the entry code, the applicant must answer a health questionnaire, ensuring that an individual is not entering campus with active indications of SARS-CoV-2 infection. The entry pass will be emailed to the individual

applying for access, and individual should either store or printout the entry pass prior to arriving in campus.

As a second step, the individual will pass through screening procedures at the entrance which will consist of 1. Scan of entry pass, and 2. Show PennID to staff/security personnel. Individuals will be denied access if one or more of the following occur: invalid entry pass or no active PennID.

As a third step, individuals will be required to pick up a surgical facemask and wear it at all times during their visit to campus. One exception to wearing a facemask will be when individuals are eating, at which point they will be in distanced setting, or when they occupy private offices.

Once in the buildings, individuals will see several precautions implement to reduce the risk of infection. Hallways and public areas will be marked to direct pedestrian traffic and minimize close interactions. Restroom traffic will be adjusted to reduce density, and restrooms will be equipped with appropriate equipment to reduce viral transmission and promote disinfection of areas, when needed. In areas where two-way pedestrian traffic is not possible because of density restrictions, we will implement conditional one-way traffic. Please find details below.

Office Spaces

Office spaces will only be used while personnel must be on campus for essential research activities, otherwise all desk work will be carried out remotely.

Limit Crowding In and Near Elevators and Other Common Spaces/Pedestrian Flow

Hallways/Stairs

Narrow passageways will be limited to one person transit. Directional traffic will be used in wider hallways to promote separation. Similarly, staircase traffic will be directional. We will encourage the use of stairs throughout the complex to minimize elevator traffic and density. Where appropriate, we will advocate elevator use only for ascending in a building – i.e., “Elevator up, stairs down”.

Indoor Public Spaces

We will minimize time that individuals spend in public spaces. In smaller public spaces, we will use Plexiglas shields to limit spread of aerosolized particles.

Outdoor Spaces

Outside spaces provide natural air exchange source for interior spaces, and for public areas to minimize risk during eating. Even though these areas will reduce risk of viral transmission, we will enforce distancing guidelines. Likewise, if an individual is concerned about air circulation within an interior space, we encourage opening a window if/when applicable.

Common Break Areas

Interior common areas will have reduced seating to promote social distance and will be regularly disinfected by housekeeping. Interior furniture has been reduced with a, one chair per table policy, which will also restrict the ability of community members to gather and eat at interior common areas.

Designated outdoor areas will be defined to increase the space for break areas. Community members will be encouraged to avoid eating meals while on-site. When eating is required to accommodate researchers working longer shifts or for medical purposes, designated outdoor spaces in and around the Engineering grounds will be encouraged for use. Additional seating will be added to the grounds to allow for socially distanced outdoor eating. Disinfectant will be provided so community members can clean surfaces used for eating.

Restrooms

Penn Engineering has a balance of single user bathrooms throughout its complex. These will be ideal to minimize viral transmission. In addition, we will significantly reduce density in multiuser rest rooms, using occupied/not occupied signage to restrict density. To minimize surface contact, we will install foot pulls on doors. These areas will receive daily cleanings, with the potential for more cleanings throughout the day.

Guidelines for Safe Hygiene and Cleaning Touch Points

Regular Cleaning of Touch Points

A plan is required from PI laboratories that will be followed to ensure contact surfaces (e.g., personal spaces, computer keyboards, phones, furniture, equipment, lab benches, hoods) are disinfected between lab member use and at the end of each shift. Housekeeping will regularly clean high contact surfaces. Housekeeping will clean lab surfaces at one point throughout each day, in consideration of availability from established lab staffing plans. EOS will provide disinfectant (spray bottle or wipes) and will be placed near equipment for lab personnel to disinfect their labs after equipment use in and between shifts.

Increased cleaning will be conducted on high touch surfaces such as elevators in all buildings. Penn Engineering will have a housekeeper assigned to policing “circulation areas”; hallways, stairwells, entrances, elevators to ensure increased cleaning has a dedicated focus. Community members will be encouraged to use elevators infrequently, especially given the short stature of our buildings, and will be directed by signage and stickers denoting socially distanced guidelines.

Safe Hygiene

All faculty, students and staff are required to wash their hands once per hour, after returning from public spaces (hallways, outside, any trip that involves frequent surface contact); regularly

disinfect high touch surfaces; and to minimize indirect contact transmission –e.g., doorknobs, door surfaces, bench handles, keyboards.

Hand Sanitizer/Disinfectants

Hand sanitizers are provided at all entry points and throughout the building. Disinfectant cleaners (spays/wipes) are provided by EOS in all labs and near shared equipment.

Health and Safety Guidance

Education about protecting individuals and the risk of transmission

The school will adhere to all relevant guidelines established by the Centers for Disease Control (CDC) in mitigating the spread of the virus. The CDC established a set of public posters that educate people on the symptoms of COVID-19, how to safely distance from one another, and the practices of safe hygiene to reduce viral transmission. We will post these posters throughout the engineering complex buildings. We will also ensure our policies are in compliance with current EHRS guidelines, which may change over the next several months. Broadly speaking, these efforts will:

1. Educate the community about how the virus can spread, reminding members there is no vaccine that can currently protect an individual from SARS-CoV-2 infection and that close contact with others increases the risk of viral transmission. We will emphasize that even individuals not showing any COVID-19 symptoms could be viral carriers, and therefore our practices must be applied to everyone in the engineering complex.
2. Make it clear what safe practices are required while present on campus. These efforts include frequent soap handwashing (at least once per hour, more if a person comes in frequent contact with other people or travels through high traffic areas) or use of hand sanitizers. In addition, individuals will be reminded to avoid touching their eye, mouth, and nose.
3. Establish guidelines to minimize close contact situations. Individuals will be placed in work environments where physical distancing is enforced, and will be encouraged to spend only the minimum time necessary on campus before leaving and resuming their research efforts from home.
4. Provide face masks to ensure that the spread of virus containing droplets and particles are minimized. In addition, individuals will be reminded to cover their mouth and nose when sneezing or coughing, and immediately wash their hands after either sneezing or coughing.

Penn COVID-19 training

All individuals returning to campus will be required to complete a resumption of research activities training module in Knowledge Link. This training module covers many aspects of SARS-CoV-2 viral transmission and the COVID-19 syndrome. Essential employees already completed a second Knowledge Link proposal entitled “Penn COVID- 19 Training for Essential Workers”. This will not be required for individuals returning in Phase 1 or later. PIs/supervisors are responsible for ensuring their personnel are in compliance and have completed the EHRS COVID-19 training.

Personal Protective equipment

Penn Engineering will provide surgical masks when an individual enters a building. The wearer will use mask for the entire visit duration of campus, except when eating. Other masks will not be allowed. The mask must fit snugly to the wearer's face, must cover the nose and mouth, and users should remember that wearing a mask does not necessarily provide them with additional protection. Rather, the primary purpose is to limit the viral spread into the environment from asymptomatic carriers of SARS-CoV-2.

In addition, we will require all personnel to maintain physical distancing requirements even while masked, at all times.

Upon exiting campus, individuals will be required to remove and discard their masks in designated containers. These containers will be removed nightly. If individuals will be moving from one building location to another during the day, they are expected to wear their mask continuously. In the event that an individual must temporarily remove their mask, they will be asked to place it in a clean paper and avoid touching the mask surface when removing and refitting the mask to their face.

Environmental Airflow

Penn Engineering facilities commonly use two stages of filtering where outside air is filtered using a larger particle filter and then a second stage filter removes smaller particles using the following industry standards: Office: (Minimum Efficiency Rating Value (MERV) of 6 (first stage) and 11 (second stage). Home: MERV 1-4, with a second stage of 6. For commercial lab spaces, the recommended second stage MERV rating is 12.

Air exchanges vary by space type –labs use 100% fresh air with no recycling, while office spaces and hallways use a mix of fresh and recycled air. The MERV filtering in place for the second stage is not dependent on the mix of fresh or recycled air. Filters are changed regularly.

Penn Engineering exceeds all industry standards. Our first filtering uses a MERV 7 rating (> 99% of 3um-10um particles), and then a second stage at either MERV 13 or 14 (>90% filtering of .3-1 um particles). For comparison, hospitals are MERV 16 (>95% .3-1 um particles) .

Find more detailed descriptions at the following two webpages:

Aerobiology and Its Role in the Transmission of Infectious Diseases

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3556854/>

ASHRAE Position Document on Infectious Aerosols

https://www.ashrae.org/file%20library/about/position%20documents/pd_infectiousaerosols_2020.pdf

Maintaining a telework model

To the extent possible, we ask that for all staff, students, trainees, and faculty that can carry out their work successfully in a remote setting, continue to work remotely. To support such efforts, we are proposing the following guidelines for our supervisors and senior leaders:

Get into a routine: Use the same schedule everyday, establishing regular patterns in a new environment.

Be mindful of your presentation and your mindset: Despite the temptation to work in informal attire, it can create an unknown psychological barrier to work throughout the day in loungewear.

Stay in touch: Maintaining communication and community are key. Regardless of your living situation, be mindful of your own needs and those of your staff. Try scheduling virtual lunches, or 20 minutes to enjoy a coffee and just chat.

Treat yourself kindly: Maintain your regular activities of health and wellness, or use this as an opportunity to start new activities. Try walking, short breaks during the day, or changes in diet that can help improve your lifestyle.

Get comfortable: Create a designated “workspace” or office within your home (and make it a space where you like spending time!). Make sure that you have all of the tools of your office available, reducing the time that you need to spend looking for items periodically. If you are in a busy environment, establish guidelines to ensure that you will have a quiet workplace to focus and dedicate your time to work. Spend time away from this office area when you are not working. This will reinforce work zones in your home.

Be aware of your social media usage and consumption: Although it is an opportunity to maintain your work and personal relationships while working in a different environment, try a scheduled approach for reviewing news and social media content. For example, dedicate a portion of time to check the news once a day, rather than throughout the day. Be mindful of the news source, and its reliability, in addition to the content. Paying attention and emotionally responding to inaccurate news sources can become a significant source of stress and anxiety.

Use one screen at a time: It is often championed that the most efficient people are highly efficient multitaskers. This is a myth. People can only focus effectively on doing one activity, especially if the activity or task is complex. Successful people develop an ability to complete and move to the next task efficiently. Reducing your efficiency can occur in many ways – for example, using more than one monitor may be less effective because the available content across these monitors can distract, rather than focus.

Get outside (if you can): Try to have a view outdoors or walk by a view every 40 min even if it means staying inside. You may consider participating in meetings while you are walking. Remember to practice social distancing when you are outside, wearing a mask when applicable.

Set your working hours (start and end time): This will allow others to count on you during that time AND for you to turn off work without the guilt that it is ‘always there’.

Get to know your co-workers: Tour your house/apartment. Have a meet and greet of the family/kids/pets/roommates. Treat it as an opportunity to get to know your team better and bond over your shared love of dogs/cats/miniature poodles.

Break up the day: Take clear breaks. Use your breaks to get away from your desk or workstation. And don’t work right through from dawn to dusk. You may feel like you’re on a roll, but you’ll soon burn out without regular breaks.

Block off time to work:

If you don’t, your day could easily be filled with endless video conferencing calls.

Make the most of the tools available:

Use your calendar to schedule what you’ll do and when you’ll do it over the course of your day.

Recognize we’re living (and working) in unusual times:

You may get anxious and stressed at times, and that’s okay. It’s normal. The most important thing is to communicate as much as possible about how you’re feeling and ask your team to do the same.

Transportation and Parking

We understand the concerns around public transportation and commuting to and from work, and we are working closely with the University on this. If possible, try to avoid crowded public transportation. If using public transportation, please make every effort to maintain social distancing and avoid surface contacts. Briefly, wear a mask, do not touch your face, and wash hands or use hand sanitizer promptly after using public transportation.

At present, parking fees at University parking lots and transient garages (Chestnut 34, Walnut 38, Walnut 40 and Penn Museum) have been waived due to the unprecedented public health crisis related to COVID-19. This waiver is available to all individuals who have a valid University of Pennsylvania or UPHS-issued ID card. ID cards issued by Penn’s affiliated hospital, practices, and institutions are also eligible for this waiver. This waiver will be in place until July 31, 2020, at which point it will be re-evaluated.

Other parking customers may park in Penn’s lots and garages at temporarily reduced rates.

Effective April 13, LUCY's (Loop Around University City) Green and Gold routes will operate every 30 minutes. Combined routes offer service every 15 minutes. More information is available at <http://septa.org/covid-19/service-information.html>. An updated schedule can be found here.

The Penn Car Share program, which includes van and car pooling options and benefits, continues to run.

Walking Escort Services

- Uniformed Allied Universal Public Safety Officers provide walking escorts to all campus locations. Officers are dispatched by radio and will accompany you from one campus location to another, to your parked vehicle, to a Penn Transit Stop or to an on-campus SEPTA regional transit stop.
- Available 24 hours a day, 365 days a year, between 30th to 43rd Streets and Market Street to Baltimore Avenue.
- Escorts also extend west to 50th Street, and north/south from Spring Garden to Woodland Avenue, between 10 a.m. and 12 a.m. via the University's partnership with the University District Ambassador Program.

How to Request a Walking Escort:

- Ask any Public Safety Officer on patrol or inside a building
- Call 215-898-WALK(9255) or 511 (from campus phone)
- Use one of the many building and blue-light phones located on and off Penn's Campus

Request for a One-Time Visit

All faculty, graduate students, postdocs, and staff who were denied approval during Phase I, or chose not to apply, may submit a “Request for a One-Time Visit” form (see Fig. 6 and Appendix E) for complete form). This form is distributed by the Office of the Associate Dean for Research.

Request for a One-Time Visit

If you have an infrequent need to access campus, we ask that you submit this request form. Submission of forms will be regularly monitored and you will be contacted to arrange and provide instructions for your visit to campus.

Last Name *

Short answer text

First Name *

Short answer text

Email address *

Short answer text

Fig. 6 Penn Engineering’s Request for a One-Time Visit Form

Penn Engineering Resumption of Research Activities Forms

Appendix

Appendix A: Faculty Resumption of Activities Form



Resumption of
Research Activities Fin

Appendix B: Graduate Students Resumption of Activities Form



Graduate Student
Resumption of Resear

Appendix C: Postdoctoral Resumption of Activities Form



Postdoc Resumption
of Research Activities

Appendix D: Staff Resumption of Research Activities Form



Staff Resumption of
Research Activities Fin

Appendix E: Request for a One-Time Visit



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