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DRAFT FOR COMMENT - 2020-05-01 @ Noon PDT

DRAFT Principles and Framework Guiding a Phased Approach to Restarting University Research Activity

(Developed by UC Berkeley in partnership with VCRs/VPRs from the University of California system and the APLU, and borrowing liberally from planning documents at many other institutions)

Preface:

This document, developed initially for UC Berkeley, has benefited enormously from comments and suggested edits from other University of California and APLU campuses (we particularly acknowledge the University of Washington's contribution of the phased ramp up matrix below), as well as from colleagues at private institutions, such as Stanford University and the California Institute of Technology. As it has evolved, we have sought to generalize it so it can be used, and customized, to the needs of any university campus. We encourage the reader to take it as a base, and adapt it as they see fit to their own campus' needs and processes.

Our initial focus is on managing access to those types of research spaces to be found on main university campuses and their nearby satellites. These include science and engineering research laboratories, shared facilities for animal research and specialized facilities for scientific instrumentation (including computational facilities). They also include clinical research facilities, machine and glassware shops and maker spaces, and to support research in the arts, humanities, and social sciences, libraries, archives, collections, and studio and performance spaces. Often remote from the main university campus, additional research spaces include astronomical and ecological observatories, research stations, natural reserves, and field sites. This document will eventually be expanded to encompass all campus and off-campus research spaces in the near future.

As always, we welcome your comments, added to the document, or via email to vcr@berkeley.edu. We will be reviewing and integrating comments weekly. Please share back your own best ideas and we will incorporate it herein.

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Guiding Principles

Overarching Goal: To keep everyone safe, while increasing research activity in a phased approach as safety becomes easier to maintain.

Our framework is informed by the following principles and observations.

Principle #1: *Follow the cognizant Local, State, and National Public Health Authority directives to shelter-at-home and implement social distancing.*

- Observation: Public health authority (PHA) directives have become more restrictive over time (recommendations, urgent recommendations, requirements, stricter identification of essential businesses and closures, clarification of allowable activities like exercise, more restrictive social distancing directives such as closing of parks and beaches, outdoor face coverings, etc.). We can expect that "loosening" will look like a similar process in reverse.
- Observation: Many experts agree that shelter-at-home should persist for 8-10 weeks, so for Northern California we may assume that this will continue through at least June 1. Other localities may loosen their restrictions more quickly. Nevertheless, higher risk groups—like older faculty and staff, or those with underlying health conditions—will likely need to shelter at home longer.
- Observation: Some governors have established public health goals, such as degree of tested population, the week on week decline in new cases, and the resource status of the local health care system, before allowing sheltering to be relaxed. For example, see California Governor Newsom's Six Step Plan for Shelter-at-Home relaxation: https://www.gov.ca.gov/2020/04/14/governor-newsom-outlines-six-critical-indicators-the-state-will-consider-before-modifying-the-stay-at-home-order-and-other-covid-19-interventions/, and a recent clarification of the state's plan for reopening: https://www.usatoday.com/story/news/politics/2020/04/22/california-gov-gavin-newsoms-april-22-update-covid-19-response/3005253001/.
- Observation: President Trump has issued a similar set of criteria for reopening economy activity. See the White House Plan for Opening up America Again: https://www.whitehouse.gov/wp-content/uploads/2020/04/Guidelines-for-Opening-Up-America-Again.pdf
- Conclusion: We can expect these State and National plans to influence the local decisions of City and County Public Health authorities based on local and regional conditions. It is fair to expect that between "only essential/minimal activity outside of

the home" and "return to business as usual," there will be intermediate phases of increased access, with two to three weeks between phase changes, with the possibility of returning to a more restricted phase should Covid-19 infections again rise.

Principle #2: *Protect the health and safety of the research workforce, emotional as well as physical, and the health and safety of our clinical patients and human research subjects.*

- Observation: No researcher should feel they are being compelled to work on campus or in the field during periods of broad shelter-at-home directives. Safety within laboratories must be rigorously maintained, with adequate access to PPE and other safety related supplies. Campus Environmental Health and Safety (EH&S) must be made aware of all research activities within university spaces. For Berkeley, the method of informing EH&S is to complete the UC Berkeley Critical On-Campus Research Continuity Request Form | COVID-19. Labs will not be authorized for access unless adequate safety supplies are identified as being available. PIs must identify who among their workforce are considered to be essential personnel (and their corresponding replacements/backups), and a process should be established whereby researchers who feel uncomfortable about their work situation can anonymously report their concerns. For Berkeley, these reports will be investigated by the Vice Chancellor for Research, and other leadership as appropriate, including Deans and Department Chairs.
- Observation: Limited access is likely to persist for some time, and researchers will need to adapt to longer term limited access. State and National guidelines suggest that access should only be restored once there is more pervasive testing and contact tracing. Ultimately establishing immunity, through serological testing or an effective vaccine, will be a prerequisite for a full return to business as usual, but that could take many months.
- Observation: Given that the relaxation of access constraints is locally determined, it may be especially challenging to ramp-up projects that are distributed across sites or which depend on international collaborations.
- Observation: Lifting of travel restrictions, such as those that limit international travel or restrict non-essential travel, are necessary before field research can recommence. This includes human subject related field research that must be conducted in person. Berkeley has allowed a limited number of field research to continue, on a case-by-case basis and given rigorous social distancing plans.
- Observation: A number of research projects have successfully and safely transitioned to being remote, requiring infrequent or no access to university spaces. While also considered important and essential, research that can be conducted remotely is not considered in the priority tiers discussed below. Furthermore, even if research can be conducted at home, we recognize that research productivity will be affected and is likely to be conducted in a less efficient way.

- Conclusion: Researchers should plan as best they can for the inherent uncertainty for when a return to research spaces will be safe.

Principle #3: *Protect the careers of early stage researchers.*

- Observation: To the extent that it is possible under the public health authority directives, as access restrictions are relaxed, priority to return to research spaces should be given to those researchers who cannot work remotely and are under time constraints to complete degrees, term appointments (e.g., postdoctoral researchers), or for tenure and other career reviews.
- Observation: In book-based and other impacted disciplines, extension of the tenure clock should be considered.
- Conclusion: Institutions should be sensitive to the consequences of reduced access to research spaces, including on-campus offices, and the dramatic impact this will have on careers, particularly of young researchers.

Principle #4: *Undergraduates are students first, researchers second.*

- Observation: Engagement of undergraduates in research should only be permitted under the most exceptional of situations. These may include the situation in which (1) the undergraduate student is an essential team member for the project, (2) the project itself has been authorized for access, and (3) the work of that student must be performed in person in the research space, and (4) no other work can be assigned to that student that can be performed remotely. These will be considered on a case-by-case basis.
- Conclusion: For their own safety, undergraduate students should adhere to shelter-at-home directives from the Public Health authority.

Principle #5: *Implement a fair and transparent process for granting access.*

- Observation: The conditions and priorities for granting access should be rational, non-arbitrary, and made public.
- Observation: While the vast majority of people who have been granted access are following the social distancing rules and maintaining low density within research spaces, a small number of abuses are inevitable. Enforcement will be by periodic inspection of authorized spaces by EH&S and facilities management, the auditing of card key swipes, and the engagement of Deans and Department Chairs applying discipline to abusers.

- Conclusion: Establish a Faculty/Administration Task Force to establish social distancing and density limitation guidelines for different kinds of activities in research space; the guidelines for a life sciences laboratory will differ from an art studio space. Develop and endorse the conditions for ramping-up and ramping down research).

Principle #6: Ensure as rapid a research restart as the public health conditions permit.

- Observation: To implement social distancing and to reduce density of research personnel in university research spaces, consider permitting 7 day/24 hour building and lab access, schedule staggered work days or work shifts, plan to extend EH&S, janitorial, and facilities support to enable round the clock operation of laboratories, research facilities, libraries, archives, collections, etc.
- Observation: Plan in advance for supply chain issues on restart. Under no circumstances should safety be sacrificed due to lack of adequate supplies, such as the type and quality of PPE.
- Observation: Ensure Core Facilities, Shops, and Fabrication Lines are engaged and ready to support work ramp up in advance of need.
- Observation: Researchers, EH&S, and building managers must work in concert to ensure that local infrastructure and physical layout of research spaces within buildings are considered during ramp-up.
- Conclusion: Develop flexible work schedules, plan in advance for any supply chain issues, prepare research facilities in advance of need, and coordinate across with EH&S and building management.

Principle #7: *Prioritize support for finding cures and preventions for COVID-19, and in assessing the economic, political, and cultural impacts of the virus, while increasing the safe access to all patients to clinical trials for their conditions.*

- Observation Critical clinical research has continued, while non-critical research was suspended, which affected many researchers conducting both federally-funded and industry-funded research
- Observation: A great majority of available clinical research resources have been dedicated to COVID-19 studies. This is likely to continue in the near future, and should be prioritized.
- Observation: Leaders involved in organized clinical trials have developed and endorsed guidelines for ramping-down clinical research, and are developing new rules for ramping-up clinical research, while respecting social isolation and maximizing the tele-medicine resources

- Observation: The clinical trial participants, research nurses, and research coordinators must respect all university health system precautions.
- Conclusion: There is important research taking place in our research units regarding the impact of Covid-19 on the workforce, and it should be prioritized as broader clinical research activities are resumed.

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Phases and Permitted Research Activities

The six stage phasing description and tabular representation (see below) has been liberally borrowed from the University of Washington's research restitution plan. The phased description was developed by the UC VCRs and shared widely with the APLU Committee on Research. Lower phases are more restrictive, higher phases less so.

Public health directives and the current state of the health care and Covid-19 public health response systems determine the timing as to when any given institution in its local context is permitted to move up or down between phases (See Principle #1 above). Before allowing greater researcher access to labs, libraries, and other research spaces, a plan for the rigorous enforcement of social distancing directives is necessary. Elements of such as plan may include (this is list intended to illustrative, not exhaustive): scheduled/work-shift access; required facial coverings; minimum distancing between occupants; depending on size of research space and nature of activity therein, density limits such as no more than 2 researchers per bench, 1 researcher per [TBD] sq ft, maximum number of faculty allowed to enter into office or library spaces, maximum numbers of individuals per lab unless further density is justified and approved; temperature checks at start and end of work shift; disinfecting books or artifacts after use by researchers; disinfecting work surfaces after use; and so on.

Example: At Berkeley, all investigators using the animal facilities must wear a face covering anytime they are in the facility, for the protection of the Office of Laboratory Animals and Care (OLAC) staff. OLAC will not be providing these face coverings; any cover, disposable or laundrable will be acceptable. PIs must maintain a low social density as well as social distancing (6 ft preferable). PIs will create a list of which groups are within each room or suite for ease of inter-group communications and coordinations. PI groups will create a "Users Calendar" to sign up and monitor their own activities within the rooms or suites. These calendars will be PI developed and maintained.

(Integrate into table):

- Animal purchasing/transfers/imports and exports will be unrestricted
    - OLAC staff will ensure that transportation services will ensure the animals to be shipped in a timely manner to avoid death of animals
- OLAC Staff will return to a regular 8 hour 5 day a week schedule

PHASED APPROACH

At the highest level, most institutions appear to be planning around three phases: shutdown, business as usual, and some intermediate state. In the approach advocated here, we identify finer graduations between "shutdown" (most institutions are never fully closed, but support some minimal standby capability) and return to full access and activity.:

- Phase 1 represents access restricted to only the maintenance of critical research capability. We estimate this to be 5-10% of normal access.
- Phase 2 represents access restricted to critical and high priority activities, such as Covid-19 rapid response research. We estimate this to be 15-35% of normal access. Think of this as a density metric: normal research space occupancy should be maintained at no more than this level. Many universities are operating in this phase at the present time.
- Phase 3 represents a degree of relaxed access, as permitted by the public authorities, with priorities given to time-sensitive research activities. We estimate this to be 35-50% of normal activities.
- Phase 4 represents increased relaxation, permitting new research to be initiated if it has been identified as a priority. We estimate that this represents 50-70% of normal activities.
- Phase 5 represents a further relaxation of research density constraints, opening up most research activity, but maintaining the density of research personnel to more than 70-90% of normal density.
- Phase 6 represents a return to business as usual, full campus density and activity.

Any given institution may choose to collapse the phases to a fewer number, maintaining the considerations of priority of access while maintaining reduced activity density and subject to the public health authority directives.

PHASE	EXTERNAL CONDITIONS	SUMMARY & METRICS	CRITERIA	TIME PERIOD
1	**Situation unknown and changing**. COVID-19 hospitalizations on the rise Testing limited, PPE shortages	**Only research deemed critical is allowed** Researchers must be designated as Critical to be on site On site research activity estimated at **5-10% of normal**	*Research facilities and field stations are closed, except where personnel are required to protect life safety and critical research infrastructure/capability* (maintaining cell lines, animal health, instrumentation, etc). ● Minimum staffing. ● Authorization for one time access to faculty offices to pick up books and materials, shut down instrumentation, etc. delegated to deans.	N/A for UC Berkeley
2	COVID-19 hospitalizations on the rise, testing limited, PPE shortages	**On-campus access allowed to maintain research**	*Research access limited to social-distanced essential personnel only for priority research activities*: ● Life safety and critical research (as stated above)	3/16/20-present (at least

	Initial Stay Home/Stay Healthy directive in place	**capability or prevent catastrophic disruption** **COVID-19 related research encouraged** Researchers must be designated as Essential to be on site On site research activity transitions to an estimated **15-35% of normal**	● "Critical Research", where a delay would have significant financial impacts or catastrophically disrupt the project or protocol (including avoiding necessary euthanasia of research animal). Finish up critical projects - no "new" projects can be initiated on campus. ● COVID-19 related rapid response activities (e.g. testing, ventilators, etc.)** ● Prioritize core facilities that support COVID-19 research (e.g.Marvell nanolab, Jacobs MakerSpace) ● Field Research: Prioritize seasonal data collection or experiments close to completion where pause or deferral would lead to "catastrophic loss" of research results. Undergraduates are not approved to participate.	thru 5/3/20)
	Preparations for next phase		- *Necessary core facilities are staffed and operational* - *Labs are able to purchase necessary supplies* - *Social distancing, facial coverings, cleaning measures understood and in place (eg face coverings for all on-campus personnel required) (See below for OLAC-specific notes)*	
3	Local COVID-19 hospitalizations flatten, then drop COVID-19 testing capacity increases PPE shortages still exist Public health authorities & Governor relax restrictions on 'essential workers'	**Definition of "critical" relaxed to include time-sensitive research** Explore options for Humanities & Social Sciences All research that can be done remotely should continue	*Deadline-driven research activities:* ● Seasonal data collection such as field and agricultural work, experiments close to completion, or deadline driven, whose pause or deferral would lead to catastrophic delay or loss of research results. ● Animal experiments where a delay would result in euthanasia or loss of a colony. ● Allow access for researchers whose research cannot be conducted remotely (primarily experimentalists), if it can be conducted safely under the proposed	?May?

	Local schools still closed/ teaching remotely for rest of academic year	On site research activity transitions to an estimated **35-50% of normal** ***Plans for sudden return to Phase 1 in place***	guidelines (including social distancing, that they are not high risk, that they feel safe doing so, that they wish to do so and are not being pressured by their PI). Prioritize access for graduate students and postdocs close to completing their degree/term of appointment (e.g., within three months of completion). ● Prioritize research for completion of grants with end dates within 3 months ~July 31, 2020 (where funding agency has not granted leniency). ● Core facilities: restart facilities based on sufficient 'customer' demand (approved projects) where work cannot be done remotely (e.g., if approved projects would consume more than 25% of its capacity, it should be prioritized for restart). ● Humanities & Social Sciences: Explore options for expanded on-campus library research options (e.g. paging services, where faculty and grad students nearing degree completion can order books and other materials to pick up from campus location). Prioritize researchers with deadlines (tenure, book contracts, degree completion, etc.) for access to Bancroft (rare books/materials) on a limited basis. Some monitored access to offices for those at critical career points (tenure, promotion). ● Field research: expand approvals depending on what current restrictions are in the counties where field research is to be conducted.	
	Preparations for next phase		- *Core campus functions are staffed and operational to handle increased load (OLAC, EH&S, CLEB)* - *More core facilities are staffed and operational* - *Labs are able to purchase necessary supplies*	

			- *Social distancing, face mask, cleaning measures understood and in place*	
4	Local COVID-19 hospitalizations continue to decrease COVID-19 testing capacity near maximum of needed capacity PPE more widely available Further relaxation of restrictions - standards for return to normal	**Gradually expand # of people on campus** while maintaining social distancing **Critical new on-campus research allowed, but labs/groups only allowed to operate at 50-70% total personnel capacity, with social distancing.** All research that can be done remotely should continue to be, including all seminars, group meetings, etc. On site research activity transitions to an estimated **50-70% of normal**	● Allow access to offices for faculty and grad students on application, 1-3 days/week to allow for psychological relief and family harmony. Must maintain social distancing and max occupancy per building (scheduling software - managed by ?who?) ● Field Research - expand on case by case basis (depending on local conditions/restrictions at field sites, travel restrictions, ability to travel safely and ability to social distance at field sites) ● Humanities and Social Sciences - allow use of libraries, archives, labs, and collections to limited numbers of researchers using hygiene and social distancing protocols. Access to offices can be allowed with social distancing practices in place (see above).	?June?

5	New cases of COVID-19 are low COVID-19 testing is at maximum needed capacity PPE availability normal Further relaxation of restrictions - standards for activity based on ability to social distance Childcare options available for parents?	**Continued expansion of research on campus** while maintaining social distancing Resume research space renovations that have been paused. Critical new on-campus research allowed, but **labs/groups only allowed to operate at 70-90% total personnel capacity, with social distancing** All research that can be done remotely should continue to be, including all seminars, group meetings, etc. On site research activity estimated at **70-85% of normal**	● Field Research - further expand on case by case basis (depending on local conditions/restrictions at field sites, travel restrictions, ability to travel safely and ability to social distance at field sites) ● Access to offices allowed generally, with attention to social distancing and cleaning ● Access to libraries, collections, studio spaces, performance spaces and labs with social distancing and disinfection of materials ● To be considered by OPHS: Could some Human Subjects Research resume under limited conditions?	?July-Aug ?
6	Vaccine or proven therapies widely available and used in combination with widespread testing and identification of new COVID-19 cases, with quarantining No or minimal state restrictions	**All types of on site research are allowed** On site research activity **normal at 85-100%**	● Restart normal research operations, including open museums and libraries, field research and human subjects research.	??Sept??

**These include research that: (a) will help deal with the pandemic, (b) has the potential to lead to therapies for Covid-19, and (c) will help the nation recover after the pandemic eases. Must file a social distancing plan; spot checking with facilities staff and EH&S safety and biosafety (CLEB) inspection.

Facilities issues for consideration:

- All buildings are online as needed to maintain minimum load of the cogen plant. None were shut down, so there's no need to restart. This is therefore not a factor.
- FS would like a one week notice for resuming partial or full operation so they can be sure they have staffing and can make assignments. This would also help them determine they have sufficient PPE inventory and can make it available.
- Effective May 1, FS will revert from 1 week shift rotations whereby only 50% were at work in any given week to semi-normal operations. They expect to be 75% staffed as a number of employees due to child care issues, etc, will be making use of the FMLA (emergency family and medical leave). Shifts will be staggered with 5:00 am and 2:30 pm start times.
- A primary concern is understanding and being able to deliver on expectations by researchers and staff. Given the constraints on staffing and shifts, the primary focus would be keeping high touch areas sanitized (see attachment). The areas they see include restrooms, lobbies and other common areas, stairs, elevators, kitchenettes. Offices and labs may receive lower attention and frequency. It would be expected occupants would sanitize their labs, offices, conference rooms. Trash removal, vacuuming, mopping might be less frequent.
- From FS perspective, consolidating research in buildings is preferable to scattering research across many campus buildings, but this could be counter to social distancing.
- Finally, they ask to be kept abreast of VCRO and other stakeholders' (such as classrooms) vision for phased startup and as it develops and evolves.

EH&S issues for consideration:

- physical distancing
- PPE consideration
- Hygiene- washing hands, coughing, etc.
- Disinfecting of frequently touched surfaces
- Modified procedures that insure at least one other person in the lab
- More frequent laundering
- Symptom testing prior to coming to lab (temperature)
- Additional roles of lab safety contacts to help ensure compliance

- EH&S walk-thrus
- PI's role to help ensure compliance
- After-hours safety (e.g., working at night)
- Drinking fountains and sinks

5. Exemplars

Example: UCI Ramp-up Guidance
Considerations for Ramp-up Planning

- Develop a checklist for restarting laboratory-based research [Stanford exemplar below offers a suggestion]. Start now to develop restart/safety plans based on the below phases - Plans should be flexible enough to enable the swift ramp down of research to an earlier phase in response to changing circumstances.
    - Plans must comply with physical distancing requirements and should provide for the lowest density of people reasonable to carry out research, and gatherings, including group meetings, and even one-to-one discussions should continue to occur virtually [UCSF exemplar below offers a suggestion].
    - Consider staggering work schedules to maintain low personnel density

- Plans for cleaning/sanitizing labs and research work spaces prior to restarting work – how will this be sustained overtime until Phase 5 (or 6) is reached?
    - Research teams utilizing shared space must coordinate their plans

- Any personnel returning from out of state must follow current guidance on 14-day self-quarantine prior to reporting to campus – these individuals should work from their place of quarantine to the greatest extent possible if they are asymptomatic.
    - International graduate students that can't return to UCI, but are able to engage in NIH sponsored research activities are, by definition, foreign components. Consult with SPA when planning for the restart of research that necessarily involve graduate students in this situation

- DO NOT restart research that requires PPE without first ensuring/acquiring an adequate supply of PPE. Start ordering PPE now, if necessary, to have on hand for restart if current stock on hand is insufficient.

    - Will cloth masks be mandated as part of physical distancing when conducting research where higher-level PPE is required/expected?

- Non-critical research that generates large volumes of hazardous waste and/or necessarily involves chemical, biological, radiation or other hazardous should not restart until Phase 4 at the earliest.

- Carrying out research should be limited to UCI employees and registered students – volunteers should not be allowed to conduct research until Phase 5 (or 6) is reached.

- All restart planning must consider the needs of employees/students with current disability accommodations or those who will require new accommodations

UCI Research Restart Decision Matrix Document
https://drive.google.com/file/d/1fIhmWbDVEPZlhv3sJ6bNi30RxiFYDD7u/view?usp=sharing

Set of questions that must be addressed/information provided organized by People as columns and rows as research spaces.
For the People columns, these are: PI/Faculty, Department Chair/Laboratory Director, Dean or Associate Dean (Research), Chancellor or Vice Chancellor (Research or other Administrative Lead for the activity/space, e.g. Libraries, Museums, Clinics, etc.)
For the Spaces rows, these are: Room or Lab, Floor, Building, Campus

To be done: developing the decision questions to permit phase transition at the intersection of Responsible People and University Research Spaces.

Example: DRAFT UCSF Life Sciences Laboratory Guidance (Document highlights below)

The top priority is public health: not just the health of UCSF staff but the health of the city and region. Premature repopulation of our buildings to an unsafe level could cause a rebound in infection rates that threatens the lives of Bay Area residents.

Any new activity must be phased in gradually so that population density and safe practices can be monitored to ensure staff health and safety. Restart will therefore occur in phases. The timeline for Phase 1 will be determined by public health considerations but is likely to occur in early May. A second phase of increased density will be considered for a later date, possibly 2-3 weeks later, but only after the community has grown accustomed to the methods required to minimize interactions and maximize health and safety.
Phase 1 Directives

Population density. The restart process will begin with extreme caution, to allow the gradual rebuilding of the research enterprise at a measured pace. In the first phase, each faculty member with an independent research program will be allowed the equivalent of one person per 8 laboratory benches. … [S]hifts can be scheduled to allow multiple people to work in sequence. … An incremental increase in activity in all labs will result in several hundred new people working in our buildings. This will result in a dramatic increase in density – not just in labs but in hallways, elevators, equipment rooms, and other shared spaces. … [T]he goal is to minimize density in our buildings as a whole.

Choice of lab members who return to work. Each PI must think carefully about which lab members will be allowed to return to work initially:

- Trainees (PhD students and postdocs) should be given top priority due to the need to complete their research projects in a timely fashion.
- priority should be given to lab staff who volunteer willingly to return to the lab.
- consider the well-being of young trainees and staff who live alone in small apartments and might benefit greatly from the ability to come in to work.
- consider the urgency of the work: students or postdocs should be given high priority if they need to complete experiments to meet a thesis deadline, a paper submission, or a grant submission.
- consider occasional replacement of personnel in the schedule with new people, to allow as many lab staff as possible to enjoy some progress in their projects.
- undergraduate volunteers will not be allowed in our laboratories for the duration of the pandemic.

Other considerations: *Support staff, core facilities, and delivery of supplies*; *Monitoring compliance*; *EH&S review*;

Example: UCD Ramp-up Guidance (Document highlights below). See
https://research.ucdavis.edu/guidelines-for-uc-davis-research-ramp-up-ramp-down-april-23-2020/

Goal: To enable all UC Davis research to resume as soon as possible while ensuring safety and while maintaining public health requirements.

UC Davis' plan employs a three phase scheme rather than the six phases outlined in the matrix above:
PHASE 1: Current "Shelter-in-Place" phase. Only critical research activities may occur.
PHASE 2: Time-sensitive research activities (~33% of research personnel on-site at any time).

PHASE 3: Gradual restart of research (~66% of research personnel on-site at any time).

Requirements for Phases 1 – 3: All research activities must maintain the following:

1. Only personnel with a need to access physical locations to advance research should be on-site. Even those personnel should minimize time on campus. All others should remain sheltered-in-place and/or off-site to help maintain physical distancing. Meetings should still be conducted remotely.
2. Labs may not be authorized for access unless the following are defined and ready to be produced upon request by the Deans and/or VCR:
   a. How many individuals can be in a space at any given time
   b. A clear process to ensure work shifts do not accidentally overlap
   c. A listing of supplies provided to maintain safety and their storage location: face coverings, soap, hand sanitizers, cleaning materials, first aid kits.
   d. Procedures to clean/wipe down shared items, equipment, cars, and work surfaces prior to usage by others
   e. A process to maintain access and activity logs in order to trace contact should someone become sick with coronavirus.
3. Physical distance between people should be maintained at all times unless other safety precautions are adopted.
   a. Maintain a distance of at least 6 feet between people. Laboratories and facilities with limited space that cannot ensure that personnel will meet these public health requirements must remain off-limits. Some locations may choose to reconfigure interior space to relieve bottlenecks and maintain space between research personnel.
   b. Do not gather in groups of size more than what is limited by the county officials. Research ramp-up cannot result in crowded spaces or mass gatherings.
4. Cover your mouth and nose with a face cover when around others and when moving through common spaces. Please follow the Human Resources guidance regarding face coverings.
5. Wash your hands often with soap and water for at least 20 seconds. Routinely and regularly disinfect common contact sites (keyboards, door handles, multi-user equipment, etc.).

Additional guidance for Schools of Medicine and Veterinary Sciences

... With regards to risks to participants and research staff and investigators, clinical research involving human subjects can best be categorized by the nature of the research procedures in relation to the available mitigation approaches. Indeed, a basic principle of human subjects' protection is to compare risk to that encountered in the conduct of everyday life, which defines minimal risk.

Phase 1: Observational and clinical research that can be conducted at a distance.

Phase 2: In person research where physical distancing may be maintained and risk mitigated to a minimal risk level can begin when clinical care settings open up and follow similar procedures.
Phase 3: In person research in which risk cannot be mitigated to minimal risk levels.

Example: DRAFT Stanford Ramp Up Guidance and Checklist (Document highlights below)

The purpose of these guidelines are to provide Schools and Research Units with a framework in which research may be conducted within the bounds of proper health and safety during the recovery phase.

The guidance ... should be adapted to the needs of each department or building, and distributed to all faculty and researchers who want to do research. These guidelines and agreements are only for the research work being done in laboratory spaces, and do not address the use of classrooms, teaching labs, or other instructional spaces, including the use of labs for remote teaching.

Restarting laboratory research will begin with Stage 1, where the focus will be to prepare the buildings and laboratories for a return to work. In this phase, limited numbers of researchers may be allowed to come to campus to assess and open labs, or perform minimal high value, low risk work, as approved by their Departments and Schools.

Guidance considerations include: Building Access, Lab Density, Non-lab Areas, Hygiene, Health and Accessibility, and a Compliance Pledge to be signed by researchers before access will be granted.

[Stanford has a strong tradition of managing space on a building by building basis, and is often the unit of authority for overseeing the development and enforcement of space management policies, such as personnel density.]

PI Lab Level Pre-Start Checklist for Safety Considerations:

- Assess your lab space for ability to meet social distancing guidelines.
- Determine how many people can work safely in your lab at a single time while observing appropriate social distancing.
- Have your department/building/facility representative confirm your space assessment and the number of personnel you are proposing to allow in the space at a single time.

- For shared laboratory work spaces, you must work with the other faculty and facility representatives to establish definitive guidelines for the space.
- If your lab has 5 or more people who will be conducting research, create a lab calendar to track who will work at what time.
    - Share this calendar with the appropriate unit representatives.
    - Post occupancy limits on the door, visible to those outside.
    - Post calendar on the door, visible to those outside.

Lab Startup Checklist

- Before you arrive: review hygiene guidance, PPE decontamination and reuse guidelines, and work alone guidance.
- First Time You Arrive: observe laboratory for safety considerations and proceed with caution.
- Before You Begin:
    - Evaluate Supplies, e.g., PPE availability and cleaning supplies, and evaluate whether you have sufficient supplies to complete the intended work.
    - Evaluate Support Services, e.g., Compressed gasses, House services (compressed air, house gasses, DI water), Glasswash services, Hazardous chemical or biological waste pick-up, Supply deliveries, Other halted services (lab coats, etc.), Regular custodial services
- Animals and other Core/Service Center Facilities
    - Contact Animal Laboratory Support Services for any animal-related questions.
    - Contact the Core Facilities/Service Centers to ensure they are available to support lab needs.
- Chemicals
    - Check if there has been a chemical spill. Contact EH&S for chemical spill clean-up assistance.
    - Inspect hazardous waste storage. Request EH&S hazardous waste pick-up as appropriate.
- Biologicals
    - Turn on BSCs and disinfect surfaces before conducting lab work.
    - Set-up new aspirator collection flasks if needed.
- Radiation
    - Turn on the Geiger counter and conduct a lab radiation survey if needed.

- Equipment
    - Turn on essential equipment in the lab.
    - If cryogen fill is needed, perform it with assistance from another lab member.
    - If CO2 is needed for incubators, contact your building manager/ facility support services for gas orders.
    - Check that equipment restarts and functions appropriately.
    - Use the shutdown checklist as a guide for equipment.
    - Is calibration needed?
    - Do safety devices operate properly?
- General Building (Performed by building/facility units)
    - If needed, update shutdown signage on the building entrance doors.
    - Check mechanical rooms.
    - Check water distillation units.
    - Check shared equipment and shared facilities (chemical storage/waste areas, gas storage area).
    - Communicate with all delivery personnel any changes to time/location for deliverables.
    - Reactivate biohazardous waste pick-up and lab coat laundering services if they were stopped.