

Biomedical Engineering General Guidelines for Returning to Campus Research (Orange level)

(May 11, 2020)

Physical Distancing:

- You are responsible for continuously monitoring your health status and working conditions, especially regarding possible COVID-19 exposure and transmission risk, both at work and off-campus.
- You are responsible to ensure the safety and well-being of those working around you in all situations.
- Orange continues the Red policy: “Anyone who can work remotely should do so.” Orange still assumes high risk situations. It is *not* “back to normal” in any campus function. Per UU policy (<https://coronavirus.utah.edu>): “Please note that **in the orange phase most work will continue to occur away from campus, with limited exceptions**. For those who will be able to return to campus in the orange phase, this process will be gradual and begin primarily with research activities.”
- Orange status relaxes but does not eliminate the *essential nature* of on-campus activities. (<https://coronavirus.utah.edu/wp-content/uploads/sites/2/2020/05/Project-Orange-Working-Document-v.3.pdf>) This is a transition to “limited research operations”. “Limited research in this context is defined as activities that can be conducted safely with limited personnel and COVID-19 specific protocols for reduced personnel density, physical distancing, and sanitizing workspaces.” (<https://app.smartsheet.com/b/form/8b86b164c210411f97bbd76ae1a9b597>)

Mission-critical to renewed campus research operations requires PI awareness of Orange status:

- Do you recognize the operational differences between Red and Orange phasing in this crisis? Short, well-planned, mission-critical in-and-out “limited” research work – not routine all-day campus research.
- Have you thought this all through as a PI with your intent to get your research group re-engaged on campus? Are you aware of the “minimum exposure” risk and safety mandate that underlies how you deploy your personnel in the lab? This is not back-to-normal.
- Are you aware of the needs of others and the operational dynamic in which your group operates in your building and how your people must be respectful and vigilant of others?
- Are you incentivizing effective, super-efficient research tasking and planning for your high-value, mission-critical research for shortened work time frames atypical before this crisis?
- For instance, computational research should continue remotely; office work should be done off-site (this includes faculty). Critical research requiring a specific set of lab facilities, helping a student in the lab or ensuring operational lab safety as supervisor are appropriate reasons to be in the building, but not occupying an office full time.
- Office work in the building should not be done until campus moves to Yellow level.
- Anyone with a fever or signs of respiratory infection (fever > 38.0 °C / 100.4 °F or new cough or

shortness of breath) or anyone who has been in contact with a person who has tested positive for COVID-19 in the last 14 days **should not visit the U**. Guidance on evaluating possible symptoms is found here among many other sites: <https://www.nytimes.com/2020/04/30/well/live/coronavirus-days-5-through-10.html?referringSource=articleShare>. Non-contact infrared temperature monitoring devices are available for routine reliable personnel screening for less than \$100. PIs are responsible for certifying that their personnel are symptom-free every time they enter a campus building.

- Visits to the U should *only be considered for the performance of high-value experiments* and in the absence of other valuable work that could be performed remotely. All high-value experiments should be documented via the PI's "Orange Phase Biomedical Engineering Research Project Description" pdf form (**available soon on line**) and approved by the PI/lab supervisor, BME safety committee, and BME department chair following the format below, prior to conduct with any personnel entering the building. (see <https://www.coe.utah.edu/lab-manager-cert/>).
- This BME project description form should be emailed to Sheila Olson (sheila.olson@utah.edu) who will upload it for further review/approvals. The form should be titled: "PI last name-lab personnel name". Submitting the form does NOT mean any approval to operate under Orange status until explicit permission is provided.
- *Any lab member contracting COVID-19 will shut down the entire lab for 14 days for self-isolation and decontamination.*
- From the Orange Status research guidelines for the University (<https://research.utah.edu/coronavirus/documents/Research-Alert-Levels-May-7-2020.pdf>)
- Onsite graduate student research activities should be limited.
 - Graduate students and post-doctoral researchers who are not comfortable working onsite should not be asked to do so.
 - Undergraduate research activities can only be conducted remotely.
- All University meetings should be held electronically – not in person, not on campus.
- Upon entering and remaining in any campus building (e.g., MEB, WEB, SMBB, BPRB, other), State-approved face mask covering should be worn at all times (e.g., re-usable cloth or surgical disposable as use-appropriate). For example, a pulled-up shirt over the mouth is not an approved facemask. These mask requirements are relaxed for people *working alone in a confined area* (i.e. individual offices, tissue culture rooms, etc) only where masks are not normally required for research.
- All labs must procure their own continuous supply of approved masks and PPE to operate and function. (<https://d2vxd53ymoe6ju.cloudfront.net/wp-content/uploads/sites/4/20190325123833/Personal-Protective-Equipment-Selection-Guide-OEHS-02.2017.pdf>) This includes approved masking, hand sanitizer, approved disinfectant for surfaces (spray alcohol or equivalent) and eyewear (glasses/goggles).

Employees may provide their own face covering or contact their supervisor for PPE arrangements. Personnel must be trained in how to properly don, doff and wear a mask, including when to dispose of and use new masks (https://healthcare.utah.edu/healthfeed/postings/2020/04/how-to-use-face-mask_v2_4-10-20_web.pdf). Be careful not to touch eyes, nose, or mouth when removing a face covering; Wash hands using thorough healthcare standard protocols for 20 seconds both before and after

removing masks. (<https://d2vxd53ymoe6ju.cloudfront.net/wp-content/uploads/sites/4/20190107091331/OEHS-PPE-Fact-Sheet-01.2019.pdf>). Utah's state government has initiated a program to provide free masks: (coronavirus.utah.gov/mask).

- Important: Personnel lab coats, eye protection, and gloves should be donned and doffed in the correct order. Don: gloves, lab coat, eye protection; wash hands. To remove (doff): reverse this order, then wash your hands again).
- No food preparation (i.e., making coffee, microwaving meals, etc.) is allowed in BME buildings.
- While on campus, small rooms (e.g., offices, kitchen areas, student rooms, instrument spaces, cold rooms) should be occupied by no more than one person.
- While in the research facility, all personnel should maintain at least 6-feet of separation, for example by limiting to one person per lab or one person per half lab, depending on the lab configuration. A minimum of **250 square feet per person is recommended**, but researchers/PIs should define the appropriate number of people per square feet to ensure that everyone remains 6 feet away from each other always.
- For cases where more than one person is allowed in a lab space (i.e., large bay-type spaces with >500 square feet), then individual working spaces should be marked with floor tape and the PI should explain how many people are allowed per each space and how the space will be divided.
- Devising a floor plan to define this personnel arrangement for each lab room is recommended.
- For shared spaces occupied by multiple lab groups, the same spacing and density requirements apply. Clear jurisdiction over who is working in what space, and how distancing occurs, how hygiene and decon/clean-up is maintained and who performs it should be clearly delineated in writing. Space-sharing requires mutual respect and understanding of protocols.
- Work time at the lab should be scheduled, such as through calendaring, to maintain the acceptable 6-feet of separation, to keep person density low, and to know who is in the building at a given time. Also, one-hour breaks should be scheduled between when personnel exit and enter the lab to ensure minimal chance for overlap. *Shift overlap and direct shift-shift contact should be avoided.* This can either be a document-based calendar (see BME shift scheduling form on-line) or an electronic scheduling system (i.e., LabArchives Scheduling). This schedule should be posted outside PI's labs weekly, and readily available to EHS and Facilities staff monitoring personnel conduct under Orange status in each building.
- Shiftwork with small clusters of personnel for fixed short, planned, intense work times is encouraged. *Normal full day (i.e., 8-hour) lab research workdays are not compliant with Orange phasing expectations.* That these shortened work shifts comprise the same personnel working together consistently (i.e., and not mixing and matching different personnel in many different shifts) will minimize cross-transmission risks and disease tracking problems.
- Forms for PI and personnel enrollment requests are now provided by CoE (<https://www.coe.utah.edu/lab-manager-cert/>) and EHS (<https://app.smartsheet.com/b/form/8b86b164c210411f97bbd76ae1a9b597>) to catalog this information for use by EHS, the department safety committee to insure safe practices. PI standard lab safety protocols must be enforced in defining any PI's lab rotation system (i.e., another person needs to be in an adjacent lab and a buddy system when already defined in the standard PI's practice SOP). As with all UU safety regulations, failure to comply with

standard procedures may result in laboratory closures and/or disciplinary action.

- Each lab should maintain a check list of all work and communal use surfaces that should be wiped down with alcohol (70% isopropanol or 70% ethanol), disinfectant, or detergent at the start and end of each person's shift. Examples include: cold room door handles, lab drawer handles, countertops and work surfaces, all lab and office entry door handles, centrifuge and instrument operation handles and touch-screens, light switches, and refrigerator/freezer handles. Cleaning should be part of their essential research plan and enforced using SOPs.
- Everyone should wash or thoroughly sanitize their hands frequently, including when arriving and leaving a lab.
- Minimize use of restrooms, elevators, and other high-risk areas such as kitchens. Track usage and decon these surfaces routinely and several times daily.
- Building restroom common surfaces (doors, sinks) will be assigned to particular research groups to ensure routine tracking and cleaning with daily decon protocols. Details forthcoming as Facilities coordinates their responsibilities.
- Building and Lab entrance door handles are assigned to particular research groups to enable tracking and regular decon/cleaning several times daily. Details forthcoming.

Initial Lab Restart Considerations:

- Before you walk into your lab after a substantial absence, perform a hazard assessment of the hidden or invisible hazards of your lab, such as compressed gases, freezers, purified water, vapor-producing chemicals, etc. that could have escaped containment or leaked in your absence. Think through how you would detect any problems and how to react *before you enter the lab*.
- Check your labs for any damage and issues associated with the earthquake and associated aftershocks. This will include all chemical storage areas, refrigerators, and storage of equipment in drawers and shelves. Walk through all of your areas and complete a visual inspection looking for any evidence of problems: broken chemical containers, old waste, leaks, failed equipment, spills, etc.
- Flush eyewash stations for 3-5 minutes to remove sediment and stagnant water. Report problems to building facilities stewards as appropriate, or the BME safety officer, or campus Maintenance department. Pour normal water down dry traps/floor drains to mitigate sewer gas smells that are often confused with natural gas leaks after long disuse.

Personnel:

- From the Orange Status research guidelines for the University (<https://research.utah.edu/coronavirus/documents/Research-Alert-Levels-May-7-2020.pdf>)
- Onsite graduate student research activities should be limited.
 - Graduate students and post-doctoral researchers who are not comfortable working onsite should not be asked to do so.
- Undergraduate research activities can only be conducted remotely.
- Personnel who are uncomfortable with campus worksite exposure during the current COVID-19 pandemic should not be pressured to do so. Where there is a difference of opinion with an

immediate supervisor, concerns should be discussed with the BME department chair.

- Individuals concerned with workplace conditions or the behavior of others in relation to COVID-19 controls, are directed to the EHS hazard/near-miss reporting tool. Reporters can remain anonymous and EHS will address any issues identified. (<https://oehs.utah.edu/resource-center/forms/hazard-report/>).

Note: *This is not a return to normal. This is a unique and highly restricted situation. This operates under “limited research” privileges and responsibilities. One new case of COVID in our labs will produce a campus calamity – please be vigilant to retain these operational privileges.*

- All lab employees returning to so-designated Orange phase “high-value lab work” (i.e., PIs, graduate students and postdocs) are required to fill out a CoE form to enroll and certify safety in Phase Orange. (<https://www.coe.utah.edu/lab-employee-cert/>)
- Lab PIs should organize regular communication/check-in to ensure that all lab members are adequately supported. It is worthwhile to consider having a faculty colleague personally interview, or have the campus wellness office speak with your laboratory team to ensure their emotional welfare.
- BME Department Chair will seek to organize regular communication/check-in to ensure that all faculty are adequately supported in this tasking.
- *All BME personnel operate in communal campus buildings including other organizational units, departments, other non-BME lab groups and university non-academic staff. Hence, this Orange status operates within a diverse academic environment. It is essential that all individual PI operations are coordinated with these other people and units. *It is essential that respect for the operational needs and safety of colleagues in every workspace is retained.* Shared work space means shared awareness and prudent judgement. This means coordination of work shifts across groups and departments, coordinated decontamination, hygiene and cleaning efforts of communal surfaces, and coordinated efforts to distance and provide work space to all. ***Situational awareness is critical in this current Orange phase. Be aware and be respectful.***
- Discussing the impact of personnel off-campus behavior, hygiene and risk is appropriate; what they contact off campus has a good chance to be brought onto campus. Minimizing transmission risk from off-campus social behavior and habits is as important as minimizing this risk on campus as well.

Building Facilities:

BME ordering of items will be done normally, by UShop or if necessary, by emailing BME’s Rowan Sessions (rownan.sessions@utah.edu) per routine.

The SMBB Nanofabrication facility operates separately under their own protocols.

Communal hygiene/cleaning and monitoring assignments:

BUILDING RESTROOM ASSIGNMENTS: forthcoming as needed

BUILDING ENTRANCE and LAB DOOR ASSIGNMENTS: forthcoming as needed