**4. Principal Investigator Laboratory Operation Plan**

**Guidance to PIs: Use this template to create a plan for your research activities that accounts for the requirements set out in the *Plan for Restarting Research Lab, Field, and Studio Activities* document. This template is also required for core facilities, studios, rehearsal rooms, computer labs, field (off-site), shipboard, or other research activities. PIs in shared/open lab spaces will need to coordinate with each other and describe the coordination in the template. Once completed, submit this plan to your Department Chair, unit Director, or corresponding reporting authority for review and approval.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **Mobile Number:** | **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **Title:** | **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **Name/No. of Alternate Contact** | **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **Department:** | **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **College/School:** | **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **This plan covers operation for Return Phase:** | **\_\_\_\_\_\_\_\_\_\_ (e.g., 2, 3, 4)** | **[update this plan for next phase]** |

**Lab or Studio Space (adapt as needed for work off-site)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Building and Room Number** | **Square Footage** | **Is your lab within a shared or open lab space? If yes, provide total square footage and names of other PIs.** | **Max # of simultaneous personnel permitted. If shared space, also include max # permitted in total space.** | **Other Considerations** |
| *Ex. Chemistry 452* | *Ex. 400* | *Ex. 2000 sq.ft. Share with Johnson, Rodriguez* | *Ex. 2 (8 in total space)* | *Ex. Max 2 researchers per bench, 1 per hood* |
|  |  |  |  |  |

**Exposure Controls**

|  |  |
| --- | --- |
| **Controls** | **Description** |
| **Describe engineering measures and administrative measures for ensuring social distancing and health screening among lab members:**  | Describe your proposed work schedule in general terms – details required below* Should include method of how you will ensure work schedule is being followed, e.g., electronic calendar

Include statements like: * Workers are required to maintain a minimum of 6 ft distance between themselves for short periods and 10 ft for prolonged co-occupancy of offices or labs
* Maximum occupancy is limited to one person in small labs and small office, two persons in large offices and three persons in a large lab
* Each lab member is required to check their body temperature before they come to the lab.
	1. If anyone shows any symptoms of COVID-19 (fever, cough, respiratory distress, etc.), s/he is required to stay home, get a COVID-19 test, and inform the PI.
	2. If an individual is tested positive for COVID-19, every person who has shared the same space at the same shift will be required to get a COVID-19 test and self-quarantine for up to 14 days.
* Signage will be placed in labs and offices to remind researchers:
* to maintain a safe distance and regularly wash their hands
* to disinfect before and after use of an instrument/equipment
* maximum occupancy of room
* other good practices include using tape on the floor to mark work areas for individuals, around hoods, and even egress
 |
| **Describe plan to minimize risk of transmission during routine procedures that require close proximity (if applicable):** | \*You can indicate that group members will be working separately in different parts of the lab. If not, you will have to describe additional measures to be taken to limit exposure\* |
| **Describe controls (including any prohibitions, buddy-system of communication) to minimize risk to lab personnel working alone and/or on high-risk procedures (reactive or acutely toxic materials, etc.):** | \*You can indicate that that at least two researchers will be working during the same time “shift” and or in the same lab\* |
| **Describe plans for lab readiness and expected or actual critical materials or reagents, including face coverings and needed PPE:** | * Indicate your plans for the usage of masks. The Department requires masks to be worn at all times when outside an office or lab, and when 2 researchers occupy a large office, or when 2 or more researchers occupy a large lab.
* Add “See Appendix, Part A for additional safety precautions using masks”
* You can indicate if your group will use nitrile gloves for non-chemical uses, e.g., keyboard work, etc.
* You can specify here the use and placement of disinfectants in the labs and how it will be used, e.g., cleaning keyboards
* Note that each researcher will have their own set of PPE (e.g., lab coat, goggle, gloves, etc.).
* Some groups require that individuals disinfect their lab coats with alcohol sprays at the end of their “shift”
 |
| **Describe plan for receipt of deliveries:**  | * you should a designated package drop off location and put up signage with contact information for the deliveries.
* you can indicate whether your group members will be available during the day to receive deliveries
 |
| **List shared facilities or instrumentation your lab members need to access and describe plan for shared usage:** | Indicate what Dept shared facilities you will need, e.g., NMR and MS, and refer to Departmental policies for controlled access |
| **Describe plan for disinfecting common surfaces and shared equipment within lab and/or allowing down-time between users:** | Indicate how your group will disinfect common surfaces, door handles, and shared equipment within the lab, keyboards, etc. Many groups are using 75% isopropanol/ethanol sprays for this.Add: “See Appendix Part B for additional safety precautions using disinfectant.” |
| **Describe any coordination with other offices/labs and core facilities:** |  |
| **If applicable, describe coordination among lab groups in shared/open lab spaces:** |  |
| **Describe building access considerations, and coordination with Chair and Building Manager:** | The building will be locked during Phase 2 and all lab members have ID cards that allow electronic access to the building. |

**Lab Personnel**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name**  | **Title** | **Contact Info (email; tel number)** | **Active during this phase** |
| ***Ex. Jane Smith*** | ***Graduate Student*** |  | ***Y/N*** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Lab Schedule (minor adjustments to this schedule do not need pre-approval provided safety measures are upheld)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Personnel** | **Days on Campus** | **Start/End Time** | **Room Number** |
| ***Ex. Researcher 1*** | ***MW*** | ***8am-6pm*** | ***Chem 454*** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Communication plan for lab members:** | for example, \*The PI and lab members will be in touch on a daily basis via email, zoom, or phone\* |
| **Communication plan between lab members in open/shared lab spaces:** |  |

**PPE and Critical Supplies**

|  |  |
| --- | --- |
| **Describe availability of PPE necessary for your research and for safeguards to minimize risk of transmission:** | \*Indicate what supplies of gloves, masks, disinfectant solutions, hand sanitizer, etc., is on hand. See April Musano if you need any these supplies\* |
| **Describe availability of supplies, materials, samples, etc. necessary for conducting your research:**  |  |

**Human Subjects and Animal Research**

|  |  |
| --- | --- |
| **If the research involves human subjects or animals, describe how safeguards will be accounted for, and for animals, how you will coordinate with DLAR:** |  |

**Travel, Off-campus Research Facilities & Field Work**

|  |  |
| --- | --- |
| **Describe plans to mitigate risks during travel and while at off-campus research sites (e.g., field work, national laboratories):** |  |
| **Describe measures to minimize risk after returning to campus from off-campus research sites:** |  |

**Compliance**

|  |  |
| --- | --- |
| **Describe how you will explain to personnel the safeguards and practices for safe operations within each phase of operations:** | You can indicate discussions safeguards and practices through group meeting or any other referred method of communication with group members. |
| **Describe how the PI will ensure compliance and resolve any conflicts and concerns among group members:**  | . |
| **Lab personnel who do not feel comfortable returning to work should not be pressured to do so. Lab personnel who have concerns about returning to work may discuss them with their PI, another departmental contact, or with Human Resources or the Graduate School.**  |

*As the Principal Investigator or Faculty Supervisor responsible for research, scholarly, and creative activities in the designated laboratory, studio, or off-site location(s), I affirm that, to the best of my knowledge, the measures and practices I have outlined in this Laboratory Operations Plan are consistent with the principles and safe practice guidance in the* Plan for Restarting Research Lab, Field, and Studio Activities*. I also understand that resumption of activities is contingent on maintaining safe practices, including any revisions necessitated by changes in public health conditions, and on approval(s) by the Department Chair and/or the Research Recovery Committee. I further acknowledge that it is my responsibility to ensure compliance, to the best of my ability, with these plans by personnel under my supervision.*

 *Print Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

 *Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**Attestation by lab personnel: I have reviewed this document with my supervisor, understand the expectations, and agree to abide by all the safety measures described in this plan.**

 *Print Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

 *Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

 *Print Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

 *Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**Reviewed by:**

 *Print Name/Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

 *Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**Appendix: Additional safety Precautions for Chemistry Restart**

**Part A: Face Masks**

* Disposable face masks should be worn when conducting research at the laboratory bench with hazardous chemicals, biohazards or radioactive materials.
* Cloth face coverings cannot be used as an alternative for other required PPE, such as flame resistant face masks when working with flammable or pyrophoric materials and/or using a face shield in addition to a face mask when working with corrosives.

**Part B: Disinfectants**

* Refer to [EPA List N: for disinfects against SARS Cov-2](https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2)
* If disinfectants on this list are not available, alternative disinfectants can be used (for example, 1/3 cup of bleach added to 1 gallon of water, or 70% alcohol solutions).  Bleach solutions will be effective for disinfection up to 24 hours.
* Exercise caution as even 70% ethanol is flammable and can be ignited. Best practice is to saturate a wipe and apply to the surface rather than directly spraying if ignition sources are nearby.  Ethanol often evaporates before the required contact time of 60 seconds, so it should be reapplied if within the 60 seconds as it evaporates.
* Do not use ethanol/isopropanol/ flammable disinfectants on equipment that generates heat unless it is cooled first.
* Avoid using bleach or other corrosive disinfectants on surfaces that may be sensitive to corrosives or would fade when subjected to a 10% bleach solution.