COVID-19 LABORATORY Research SAFETY PLAN TEMPLATE

# Introduction

This is a safety plan template and is based on the hierarchy of controls model of risk management. The premise is to prioritize and implement controls that are known to be most effective (removing/eliminating exposure vs using PPE). The image in Figure 1 depicts this model using COVID-19 specific controls.

Least Effective

Most Effective

**Figure 1: Hierarchy of controls as it applies to COVID-19**

# Purpose

This document has been designed to assist principal investigators and lab directors in establishing appropriate protocols to minimize risk for work occurring during COVID-19.

# Instructions for use

To use this template, **insert your instructions in the relevant sections and delete the template instructions provided.** Once complete, review with your research group.

Review involves going through the processes you have established and getting acknowledgement from all members of the work/research group that they understand and will comply with this plan.

Sections in Part A do not require any data to be submitted, and **must not be modified**. All sections in Part B must be completed. A diagram of the relevant space is required.

Follow [this link](https://uwaterloo.ca/plant-operations/floor-plans) to access Floor Plans (WatIAM login required).

**Notes**

* You may submit one plan for multiple lab locations if they meet the following criteria:
	+ They are solely managed/supervised by you
	+ They are all located in the same building
	+ The plan contains one complete layout **for each room**
	+ The plan contains one table (completed) for surface decontamination **for each room**
	+ The plan contains one table (completed) for shared equipment decontamination **for each room**
* All sections in Part B must be completed
* You will need to obtain acknowledgement from all employees and students
* Your signature on the Request Form signifies that you will enact the plan as outlined and be accountable for enforcing this plan

PART A

# 1.0 Researcher Training

Before coming back to campus, employees, students and researchers must complete the following training:

* Mandatory [“Return to Campus Safety during COVID-19” (SO 2036)](https://uwaterloo.ca/safety-office/training/returning-campus-safely-during-covid-19) online training
* Training from the PI on the new practices outlined in this procedure

# 2.0 RESPONSIBILTIES

## 2.1 Supervisors

* Meet with working group members before allowing them access to the lab. Orientation shall cover all items within this plan.
* Develop this plan to meet Workplace Health & Safety Guidelines for COVID-19.
* Enforce all criteria within this plan.
* Ensure appropriate hand hygiene and surface disinfection supplies are provided for employees.
* Physically visit and inspect the laboratory monthly to:
	+ Identify hazards as per the Occupational Health and Safety Act
	+ Ensure the adequacy and adherence to this safety plan.

## 2.2 Employees and Students

* Follow all guidance within this plan.
* [Work from home](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/guidelines/work-home-guidelines) for all tasks that do not need laboratory access.
* Notify their supervisor if supplies are not sufficient to maintain hand hygiene and surface decontamination requirements.
* Notify their supervisor of any hazards that are discovered while working.
* Do not come to work if ill, and report all illnesses to the supervisor using the process outlined in section 3.2 Illness and Absence Reporting.

# 3.0 Health Protocols

## 3.1 Self-Assessment Screening

To minimize risk, employees and students must not come to campus when ill. For this reason, the University requires that employees and students monitor themselves daily for symptoms of COVID-19. Before arriving on campus each day, complete the COVID-19 screening questions using the [Campus Check-In Tool](https://uwaterloo.ca/coronavirus/health-and-safety/campus-check-in). Signage posted at building entrances will remind employees and students to conduct self-assessments.

## 3.2 Illness and Absence Reporting

Do not participate in work or allow a member of your team to participate if exhibiting COVID-19 symptoms. Review and follow the [University’s Health Protocols](https://uwaterloo.ca/coronavirus/return-campus/workplace-health-and-safety-guidance/health-protocols) at all times.

# 4.0 Hand Hygiene

Hand hygiene should be performed regularly throughout the day. At minimum, employees and students shall wash hands or perform hand sanitization:

* When entering or leaving a new space
* When they remove gloves
* After using shared equipment

Hand washing is the preferred method of hand hygiene at UW. If hands are soiled (dirt, debris, oils, grease, and other contaminants), hand sanitizers will not be effective. Use soap and warm water in these cases. If work consistently causes hands to be soiled, hand washing facilities need to be provided and accessible (sink and soap).

Communicate these requirements to your employees and students.

# 5.0 Group PRotective Equipment

Physical distancing must be implemented whenever possible. Even while practicing physical distancing, **face coverings are required in all common use areas of University buildings.**

# 6.0 Personal Protective Equipment (PPE)

PPE is required when no reasonable alternative exists and work assignments require that employees be within 2 m of each other for greater than 15 minutes cumulatively, or for sustained periods of lesser duration (5 minutes). In these cases, the following PPE is required:

* **Medical grade masks** - Masks which are assigned a protection rating and protect the wearer as well as others. These should cover the nose, mouth and chin, and allow for molding around the nose. N95 masks and respirators are not recommended for general use, and should be reserved for healthcare workers or patient contact settings.
* **Other PPE**
* **Protective eyewear** – Protective eyewear (in addition to a mask) is strongly recommended any time a physical distance of 2 metres cannot be maintained between employees interacting for more than 15 minutes (cumulatively over the course of 24 hours). Where an employee is providing services to a person in any circumstance who is not wearing a mask or face covering and is not separated by plexiglass or some other impermeable barrier, the employee is required to wear appropriate PPE i.e., a medical grade mask **and eye protection**. Eye protection can include appropriate safety glasses/goggles or a face shield (available via [Central Stores](https://uwaterloo.ca/central-stores/central-stores-service-stock-catalogue#ClothFaceMasks)) and must:
	+ Fit properly and not interfere with the proper fit of a mask
	+ Provide a barrier to splashes from the side
	+ Not create an additional hazard in relation to the type of work being performed
* **Gloves** - If human contact is anticipated, impervious gloves should be used (i.e., nitrile). Where there is no human contact, gloves are not required to protect against COVID-19. Hand hygiene is more effective. Gloves should not be worn in hallways – this rule has not changed.
* **Lab coats** – When used, lab coats should be designated to an individual. Washing is only required when they have been soiled/contaminated, or after 10 days of use (whichever comes first).
* **Chemical aprons** – Should be wiped with disinfectant before and after each use.

# 7.0 Waste Disposal

* Non-hazardous waste will be removed from labs by custodial services as per the schedule used before COVID-19.
* Hazardous waste should be handled and removed according to the [hazardous waste guidelines](https://uwaterloo.ca/safety-office/laboratory-safety/hazardous-waste-standard).

**Note**: Due to COVID-19 and physical restrictions in the Environmental Safety Facility (ESF), open hours no longer exist. Waste must now be scheduled using the online calendar. Information on this calendar can be found [here](https://uwaterloo.ca/safety-office/laboratory-safety/hazardous-waste-standard).

PART B

**Principal Investigator:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Laboratory location(s) (list all rooms):** \_\_\_\_\_

# 1.0 Elimination of non-campus related work

Eliminating the hazard is the best means of ensuring that risk is minimized. Differentiate work that should be performed remotely versus work that must occur on campus. All work that can occur remotely should be conducted remotely. List the work here and discuss these expectations with your research group.

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| **Remote work** | **Campus work** |
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# 2.0 Adjust the workplace - Physical Distancing

Physical distancing is the next best way to reduce risk. To ensure 2m physical distancing can be maintained, implement these two main tools:

* Occupancy limits and traffic flow
* Scheduling work

## 2.1 Occupancy Limits and Traffic Flow

Before allowing people back into this lab, occupancy limits must be established and communicated. Traffic flow will also have to be considered by completing a thorough review of the work being undertaken in the lab. To do this, consider the following:

* Allot 12.5 m2 / person when determining occupancy in lab spaces. Do not forget to consider office space usage and requirements to determine occupancy if offices are proposed for storage of personal items.
* Provide room dimensions used to support occupancy limit calculations.
* Identify high-frequency use equipment and shared equipment (consider moving this equipment to minimize individual interactions).
* Designate work stations so that only one person is at that station at a time (consider using tape or other markings).
* Assign benches (or areas) for certain types of work or people.
* If offices are being used for breaks and/or time in between experimental work, include occupancy limits for offices and rules and restrictions of their use. Note, office use should only be permitted during a person’s scheduled time on campus for laboratory work.

Insert a diagram of the research area, with a diagram for **each** **space** as applicable.

Include the following:

* Occupancy limits (for each area in a suite)
* Designated single occupancy workstations
* Identify shared or frequently used equipment
* Hand hygiene stations or hand washing sinks
* Optional requirements: workflow patterns for one-way travel (if needed)

Figure 2 provides an example lab diagram. This diagram is for one laboratory space or room. The maximum occupancy for the room (as required on the Request Form) is the total of all occupancy limits (14 in this example).

**Figure 2: Example laboratory diagram outlining occupancies and traffic flow**

**Legend**

* Red arrows ( ) indicate the suggested one-way flow pattern
* Circles with OL ( ) indicate an occupancy limit for the area
* Red circles with x’s ( ) indicate suggested reductions in occupancy
* Green rectangles ( ) denote shared equipment locations
* Purple rectangles ( ) denote single occupancy workstations equipment locations

## 2.2 Work Schedules

Most research will require schedules to maintain physical distancing. Include a schedule or describe scheduling plans here. The scheduling plan should include:

* Where shared calendars will be located
* How they will be accessed
* How space and shared equipment bookings are made
* Process for approving and enforcing scheduling to ensure occupancy limits are not exceeded
* Name of responsible party for approving, communicating, and enforcing schedule
* Work should be scheduled weekdays between the hours of 8 am and 6 pm, Monday to Friday
	+ If evening or weekend hours are required in order to manage lab work, include a description of how access, safety and cleaning will be managed (this should also be justified in your Request Form)
* Requirements that office work be done at home
* Meetings should be held virtually
* Measures to ensure that [Working Alone guidelines](https://uwaterloo.ca/safety-office/occupational-health-safety/working-alone-guideline) are followed at all times, including specific working alone procedures to be implemented within the lab (e.g., delineation of activities that are permitted while working alone, check-in/check-out procedures, etc.).

## 2.3 Physical Distancing

Physical distancing should be practiced whenever possible. PPE is required when no reasonable alternative exists and work assignments require that employees be within 2 m of each other for greater than 15 minutes cumulatively, or for sustained periods of lesser duration (5 minutes).

Use the table below to outline situations in which physical distancing may not be possible, and the PPE that will be used to reduce the risk of these activities.

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| **Situation Description** | **PPE Required** |
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# 3.0 Surface Decontamination

Surface decontamination within the laboratory is the responsibility of the Supervisor or PI. At minimum, most surfaces should be disinfected twice per day. Fill out the sections below which outline decontamination plans for the lab.

## 3.1 Work surface and equipment Decontamination

Complete the table below regarding disinfection details for the shared equipment within the laboratory. Include 1 table for each separate location.

**Table 1: Shared equipment disinfection details**

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| --- | --- | --- | --- | --- |
| **Equipment Identifier** | **Disinfectant** | **Concentration** | **Contact time\*** | **Frequency of disinfection** |
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\*Contact time refers to the amount of time that the disinfecting agent is required to be in wet contact with the surface/object to appropriately disinfect. Consult manufacturer’s protocols to determine appropriate contact time for commercially available products (e.g., Lysol wipes).

Notes on surface disinfection:

* Ensure the disinfectant chosen is appropriate for the surface being disinfected.
* Ensure there is enough disinfectant to last the workweek.
* All work surfaces should be decontaminated twice daily. In most situations, this means before work begins and once work has concluded.
* If commercially available disinfectants are proposed for use, include full product name and corresponding contact time.

## 3.2 High-touch area Decontamination

All high-touch surfaces should be disinfected twice daily. Designate responsible persons and a schedule for this to be done. Complete the table below for your research areas. Include 1 table for each separate location.

**Table 2: High-touch surface disinfection summary table**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item Identifier** | **Disinfectant** | **Responsible Person** | **Schedule** | **Frequency of disinfection** |
| Doorknobs, push bars, handles |  |  |  |  |
| Cupboard knobs and handles |  |  |  |  |
| Faucets and tap handles |  |  |  |  |
| Lab phone |  |  |  |  |
| Light switches |  |  |  |  |
| Keyboards and mice |  |  |  |  |
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[Click here](https://www.publichealthontario.ca/-/media/documents/ncov/factsheet-covid-19-environmental-cleaning.pdf?la=en) for more information on the disinfection of surfaces.

# 4.0 Personal hygiene

Please answer the following questions.

1. Are handwashing sinks available for use within each lab for which access is being requested? Yes [ ]  No [ ]
	* If “no”, outline what hand hygiene stations you have provided, and identify the location of the nearest accessible sinks for hand washing:

Click or tap here to enter text.

1. Is task-specific PPE used and shared (E.g., cryogenic gloves, chemical aprons)? Yes [ ]  No [ ]
	* If “yes”, specify how this equipment is disinfected between uses:

Click or tap here to enter text.

1. Are Offices available for personal storage? Yes [ ]  No [ ]
	* If “yes”, provide details regarding room number and location, occupancy limits, location of hand-hygiene stations, and room dimensions, and ensure that relevant surfaces and high-touch areas are identified in disinfection tables within sections 3.1 and 3.2;
	* If “no”, indicate the alternative method of ensuring personal items are not contaminated within the lab (for example – providing rubber maid bins or storage racks in designated locations with disinfection before/after use):

Click or tap here to enter text.

# 5.0 Related Plans that must be referenced

## 5.1 Laboratory Shutdown PLan

A Laboratory Shutdown Plan is one that assigns responsibility to various individuals within your group to ensure the tasks in the [Laboratory Ramp-Down & Temporary Shutdown Checklist](https://uwaterloo.ca/research/news/laboratory-ramp-down-and-temporary-shutdown-checklist#:~:text=Turn%20off%20appliances%2C%20hotplates%2C%20ovens,Remove%20regulators%20and%20use%20caps.) can be accomplished on short notice. This is to ensure a laboratory can be closed for an extended period of time.

Briefly describe your laboratory shutdown plan. This should include statements such as “Work can be shut down within X hours” “During shutdown, only the Y,Z machine(s) will need regular maintenance” “This will be the responsibility of [name person].”

Click or tap here to enter text.

## 5.2 Working alone plan

Depending on the work being undertaken, and if employees or students will be expected to work alone, a working alone plan may be required. To determine if you need a plan refer to UW’s [Working Alone Guide](https://uwaterloo.ca/safety-office/occupational-health-safety/working-alone-guideline).

State which of the following is applicable:

1. All work in this laboratory is deemed low risk and can be done alone, following the above plan, and providing that the research group has implemented a periodic check-in protocol; OR,

(2)A working alone protocol is established and formalized as a Standard Operating Procedure SOP. The SOP should include what materials, equipment and equipment are deemed high-risk and cannot be utilized while alone; and, include information security measures that are in place to protect against theft, property damage, or personal injury due to an intruder. All individuals approved to work alone must be trained on the SOP.

Click or tap here to enter text.

6.0 Post Approval Checklist:

The following action items must be completed upon approval of this safety plan prior to conducting any research activities in the laboratory. You will be required to complete this checklist after your plan has been approved (before posting in your lab).

It is also available at <https://uwaterloo.ca/coronavirus/research-information>

* I have posted approved occupancy limits on all lab entrances/exits.
* I have posted hand hygiene procedures on all sinks and hand hygiene stations.
* I have removed extraneous seating from the spaces in this plan.
* I have designated single use workstations with floor markings or tape (if needed).
* I have established hand hygiene stations for employees to use.
* I have communicated all changes being made due to COVID-19 to all occupants/employees.
* I have communicated that all personal or street items shall not be stored within the lab. Where required, I have made arrangements for locker or office space.
* I have planned for the safe shutdown of my work spaces should another extended shutdown of campus be required. This plan is available for review.
* I have completed a Working Alone Assessment and have implemented this plan where required. This plan is available for review.

# 6.0 Acknowledgements

**Employee and student acknowledgements**

By printing and signing my name in the table below, I acknowledge that I have been trained on the procedures outlined in this document, that I have been consulted and have no reservations with the safety precautions and processes that will be in place to conduct research described in the request to be in on campus.

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| **Employee Name** | **Signature** | **Date** |
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**Principal Investigator Acknowledgement:**

I acknowledge that I am responsible for the implementation of all procedures outlined in this document to reduce infection risk of COVID-19. Those found not following these directives may be subject to corrective action up to and including disciplinary measures.

**Principal Investigator Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Principal Investigator Signature:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Date:** \_\_\_\_\_\_\_\_\_