1.0 INTRODUCTION
This is a workplan template and is based upon 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.

![Hierarchy of Controls](image)

2.0 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.

3.0 INSTRUCTIONS FOR USE
This is a workplan template. 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.

**Notes**

- You may leave Section 2.0, Worker Training and Section 4.0 Self-Disclosures, as is, as it covers the training and self-assessment screening criteria required by the University
- You will need to develop one plan per lab location that do not adjoin
- You will need to obtain acknowledgement from all workers which includes students
- You will need to sign the plan at the end signifying that you will enact the plan as outlined as well as be accountable for enforcing this plan
- At minimum all research workplans should contain the following elements:
  - Statement that all work that can be done remotely is performed remotely
  - Occupancy limits for all rooms under supervision
  - Schedules that match occupancy limits and are within the hours of 6 am to 6 pm
  - Designating workstations and outlining precautions for use of shared equipment
  - Consider moving shared equipment to locations within the lab that could reduce person to person contact
  - Designation and frequency of cleaning for working surfaces (at least twice daily)
  - Designation and frequency for cleaning of high touch surfaces
  - Outlining when non-medical masks are required
RESEARCH PLAN

Lab Manager: Charles Dal Castel Laboratory Location: E6-3103/3107/3109/3113

1.0 ELIMINATION OF NON-CAMPUS RELATED WORK

Eliminating the hazard is the best means of ensuring that risk is minimized. To this end, differentiate work that should be performed remotely versus what work must occur on campus. List the work here and discuss these expectations with your research group.

<table>
<thead>
<tr>
<th>Remote work</th>
<th>Campus work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Analysis</td>
<td>Experiments and measurements</td>
</tr>
<tr>
<td></td>
<td>Sample preparation</td>
</tr>
</tbody>
</table>

*To be clear, all work that can occur remotely should be conducted remotely.*

2.0 WORKER TRAINING

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

- Complete the mandatory “Return to Campus Safety during COVID-19” (SO 2036) online training
- Complete orientation of new practices outlined in this procedure by the Lab Manager

3.0 RESPONSIBILITIES

3.1 LAB MANAGER

Lab manager shall:

- Meet with working group members prior to 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 workers.
- Physically visit and inspect the laboratory on a monthly basis:
  - to identify hazards as per the Occupational Health and Safety Act; and,
  - to ensure the adequacy and adherence to this workplan.
3.2 WORKERS AND STUDENTS
Workers shall:

- Follow all guidance within this plan
- Work from home for all tasks that do not need laboratory access
- Notify the supervisor if supplies are not sufficient to maintain hand hygiene and surface decontamination requirements
- Notify the supervisor of any hazards that are discovered while working
- Not to come to work if ill, and report all illnesses to their supervisor using the process outlined in Section 4.0.

4.0 HEALTH PROTOCOLS

4.1 SELF-ASSESSMENT SCREENING
To minimize risk, workers 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 influenza-like-illness. The COVID-19 self-assessment tool, found in the WatSAFE app or on the University’s Health & Travel Guidance site, provides clear directions on how to self-assess. Employees and students will also be reminded to conduct self-assessment at building entrances.

4.2 ILLNESS AND ABSENCE REPORTING
All employees must be aware of the symptoms and the importance of reporting symptoms and/or absences to their supervisors or delegates before the beginning of the first day absent.

Due to COVID-19, all absences should be reported to the manager. Confidentiality of personal information will be maintained at all times and subsequent actions will include:

- If the employee is ill, the manager is to report this directly to Occupational Health and proceed with usual illness reporting procedures through Workday
- If the number of sick days exceeds 5 consecutive workdays, the manager will track sick time in Workday (for Staff) and work with the Disability Management team
- During the return to campus phase, Occupational Health will continue to monitor all absences

When reporting the absence please include:

- The name of the absent employee
- The department (include work area or location)
• The employee’s home and/or mobile phone number

Occupational Health will communicate with the individual, as well as the departmental or administrative head, to provide guidance about maintaining good health practices in the workplace.

Normal sick leave procedures captured within the University of Waterloo Disability Management Guide will be followed. Medical documentation will be required after the fifth workday absent.

If you have questions, please consult with Occupational Health for further direction.

5.0 ADJUST THE WORKPLACE - PHYSICAL DISTANCING

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

• Occupancy limits and traffic-flow
• Scheduling work

5.1 OCCUPANCY LIMITS AND TRAFFIC FLOW

<table>
<thead>
<tr>
<th>Room #</th>
<th>Occupancy Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3103</td>
<td>3</td>
</tr>
<tr>
<td>3103A (XRD room)</td>
<td>1</td>
</tr>
<tr>
<td>3107</td>
<td>1</td>
</tr>
<tr>
<td>3109</td>
<td>4</td>
</tr>
<tr>
<td>3113</td>
<td>1</td>
</tr>
</tbody>
</table>
5.2 WORK SCHEDULES

Most research will require schedules to maintain physical distancing. Outline scheduling plans here. The scheduling plan should include:

- Booking calendar for each analytical equipment can be accessed by trained researchers/students at: https://chesp.uwaterloo.ca/sites/analytical/SitePages/Home.aspx
- All equipment is shared among users. A machine may be booked for at least 30 min or several days.
- Currently, the lab will be accessible between the hours of 8:30 am and 4:30 pm.
- The XRD, DSC, TGA, ICP, IC, HPLC, GC and GC-MS have autosampler and do not require the presence of the operator once they are set up.
- The BET analysis may take several hours to complete and do not require the presence of the operator during runs.
- FTIR and CDS require the user to stay at the station, however, the user should leave the analytical lab momentarily to allow other users to setup their experiments in the BET and GC/GC-MS respectively.
- The Users will be instructed to set up their analysis and leave the analytical in case there are other users waiting to use an equipment and physical distancing.
cannot be maintained (for example, if the ICP and HPLC are booked at the same time).

- Equipment with autosampler (DSC, TGA, ICP, XRD, IC, HPLC, GC, and GC-MS) can be booked overnight (unsupervised).
- Data analysis should not be done in the analytical lab. Transfer the data to your computer and evaluate it at home.
- Equipment maintenance and handling of hazardous substances (e.g. concentrated acids, organic solvents, or compressed gases) should not be performed when the Lab Manager is not on site. Make sure Working Alone Guidelines are followed at all times.

5.3 OTHER CONSIDERATIONS FOR PHYSICAL DISTANCING

- Post occupancy limits on all lab entrances/exits (waiting for signage)
- Post hand hygiene procedures on all sinks and hand hygiene stations (waiting for signage)
- Remove extraneous seating (done)
- Designate single use workstations with floor markings or tape (if needed)
- Ensure hand hygiene stations are present for workers to use (order more)
- Communicate all changes being made due to COVID-19 to all occupants/workers
- Personal or street items shall not be stored within the lab. This means coats, bags, and other belongings. An arrangement should be made for locker or office space. (add signage)

Note – standardized posters relevant to COVID-19 controls can be ordered here: (Coming Soon)

6.0 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.

6.1 WORK SURFACE AND EQUIPMENT DECONTAMINATION

Complete the table below regarding disinfection details for the shared equipment within the laboratory:
Table 1: Shared equipment disinfection details.

<table>
<thead>
<tr>
<th>Equipment Identifier</th>
<th>Disinfectant</th>
<th>Concentration</th>
<th>Contact time</th>
<th>Frequency of disinfection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment panels, handles, knobs. DSC, TGA, ICP, XRD, BET, IC, FTIR, HPLC, GC, CDS, Balance, and GC-MS</td>
<td>Molloys 75% Alcohol (Essential oil - orange scented) Surface Cleaner</td>
<td>60-80%</td>
<td>Spray small area, wait 2 min and wipe</td>
<td>Before and after each user</td>
</tr>
<tr>
<td>Lab Utensils. Spatula, tweezer, etc.</td>
<td>Molloys 75% Alcohol (Essential oil - orange scented) Surface Cleaner</td>
<td>60-80%</td>
<td>Spray small area, wait 2 min and wipe</td>
<td>Before and after each user</td>
</tr>
</tbody>
</table>

Notes on surface disinfection:

a. Ensure the disinfectant chosen is appropriate for the surface being disinfected.

b. Ensure there is enough disinfectant to last the workweek.

c. All work surfaces should be decontaminated twice daily. In most situations, this means before work begins and once work has concluded.

6.2 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:

Table 2: High touch surface disinfection summary table.

<table>
<thead>
<tr>
<th>Item Identifier</th>
<th>Disinfectant</th>
<th>Responsible Person</th>
<th>Schedule</th>
<th>Frequency of disinfection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doorknobs, push bars, handles</td>
<td>Isocare Fast RTU</td>
<td>Lab Manager</td>
<td>Beginning and end of day</td>
<td>Twice daily</td>
</tr>
<tr>
<td>Cupboard knobs and handles</td>
<td>Isocare Fast RTU</td>
<td>Lab Manager</td>
<td>Beginning and end of day</td>
<td>Twice daily</td>
</tr>
<tr>
<td>Surface</td>
<td>Disinfectant Details</td>
<td>Responsible Party</td>
<td>Frequency</td>
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<td></td>
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<tr>
<td>Faucets and tap handles</td>
<td>Isocare Fast RTU</td>
<td>Lab Manager</td>
<td>Beginning and end of day</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Twice daily</td>
<td></td>
</tr>
<tr>
<td>Lab phone</td>
<td>Molloys 75% Alcohol (Essential oil - orange scented) Surface Cleaner</td>
<td>User</td>
<td>Before and After use</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Twice daily</td>
<td></td>
</tr>
<tr>
<td>Light switches</td>
<td>Molloys 75% Alcohol (Essential oil - orange scented) Surface Cleaner</td>
<td>Lab Manager</td>
<td>Beginning and end of day</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Twice daily</td>
<td></td>
</tr>
<tr>
<td>Keyboards and mice</td>
<td>Molloys 75% Alcohol (Essential oil - orange scented) Surface Cleaner</td>
<td>User</td>
<td>Before and After use</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Before and after each user</td>
<td></td>
</tr>
</tbody>
</table>

Isocare Fast RTU contact time is 5 minutes

Review the link for more information on the disinfection of surfaces:

### 7.0 HAND HYGIENE

Hand hygiene should be performed regularly throughout the day. At minimum workers shall wash hands or perform hand sanitization when:

- They enter or leave a new space
- When they remove gloves
- After using shared equipment
- 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).
- Hand washing is the preferred method of hand hygiene at UW.

Communicate these requirements to your workers and students.
8.0 GENERAL PROTECTIVE EQUIPMENT

If physical distancing is practiced, additional PPE will not be required. Should physical distancing not be possible for specific tasks or specific situations, cloth face coverings can be used.

Details on other general protective equipment are below:

- Where there is no human contact, gloves are not required to protect against COVID-19 (ie. study participant). Gloves shall not be used in hallways (this rule has not changed). Hand hygiene is more effective.
- Respirators and surgical face masks are not recommended for general use to protect the public against one another. In cases where physical distancing of 2 m is not possible face coverings (cloth masks) can be used.
- Rubber gloves for cleaning glassware can be shared provided proper hand hygiene is performed before and after use.
- Face shields, safety glass, and safety goggles should be individually provided and wiped with a disinfectant before and after each use.
- Chemical aprons should be wiped with disinfectant before and after each use.
- Lab coats should be designated to an individual. Washing is only required when they have been soiled.

9.0 WASTE DISPOSAL

1. Non-hazardous waste will be removed from labs by custodial services as per the schedule used prior to COVID-19.

2. Hazardous waste should be handled and removed according to the hazardous waste guidelines. 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: Coming Soon.

10.0 SHUTDOWN PLAN

Lab Manager is responsible for lab shutdown. Laboratory Ramp-Down & Temporary Shutdown Checklist is available in the analytical lab and can be accomplished on short notice.
11.0 ACKNOWLEDGEMENTS

**Worker 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.

<table>
<thead>
<tr>
<th>Worker Name</th>
<th>Signature</th>
<th>Date</th>
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Principal Investigator Acknowledgement:

All procedures outlined in this document have been implemented by me to reduce infection risk of COVID-19. Those found not following these directives will be subjected to corrective action up to and including disciplinary measures.

Lab Manager Name: Charles Dal Castel

Principal Investigator Signature: ____________________  Date: __________