

**COVID-19 EXPOSURE PREVENTION
IN-CLASS INSTRUCTION RISK ASSESSMENT**

Assessment Date:	July 13, 2020	Room(s):	SW1-1075	Class Type:	<input type="checkbox"/> Classroom <input type="checkbox"/> Lecture Hall <input checked="" type="checkbox"/> Laboratory <input type="checkbox"/> Shop Floor
				Hand Washing Location(s):	There are 3 sinks available in the lab
Use Description:	Capacity = 8 students, 1 instructor, 1 technician/assistant instructor. (N95 masks, safety glasses/goggles, lab coat, and disposable gloves are required for this lab due to dust and chemicals.)				

GENERAL TRANSMISSION PREVENTION GUIDELINES

EDUCATION	Post infection control practices and physical distancing posters. <i>Posters available on OHS Share Space.</i>
	Identify the nearest handwashing location to students and ensure it stocks with soap and paper towel.
	Frequently remind students to avoid face touching during lab time and to wash hands before and after lab session (and during when possible).
	Advise staff and students to stay home if sick. Develop and communicate accommodations for students in isolation/quarantine.
	Promote no eating during lab session / in lab rooms.
	Ensure all staff have completed the online BCIT Pandemic Exposure Control Plan Training .
PHYSICAL DISTANCING	Ensure that lab rooms are set up to allow 2-metre physical distancing between all occupants, unless controls in place.
	Determine and implement class/room capacities in order to maintain 2-metre physical distancing.
	Set up demonstration/instruction areas to allow for students and staff to maintain 2-metre physical distancing. <i>With tape, chalk, etc.</i>
	Set up physical distancing (with tape, etc.) for the use of any shared tools/equipment for the lab sessions.
CONTROLLING COMMON TOUCH POINTS	Do not provide students with physical handout papers/forms, pens, and other common writing/learning tools unless controls in place.
	Remove any unnecessary common touch points, objects, or self-serve items (i.e. hearing protection, gloves).

	For any lab-provided tools/equipment – if possible ensure each student has his or her own dedicated items.
	Identify all tools/equipment that share between all students.
	Develop and post transmission prevention and/or sanitization procedures for all shared items and common lab rooms touchpoints.
	Provide cleaning supplies and instruct students on how to correctly clean/sanitize, if applicable.
PERSONAL PROTECTIVE EQUIPEMENT (PPE)	<p>Instruct students on how to safe use, remove, and dispose/clean (as applicable) any required PPE for the lab session(s).</p> <p><i>Note: PPE (gloves, respirators, face shields, etc.) should only be recommended/required for pandemic exposure control if best practices (physical distancing, hand washing) are impossible to maintain. Please contact ssemohs@bcit.ca for further guidance regarding PPE.</i></p>

SECTION A: To complete by assessors.

Table 1 – Common Tasks/Situations

Directions for assessors:

1. List and assess common tasks/situations encountered in the instructional setting.
2. Refer to the [BCIT Risk Assessment Matrix](#) for further instructions.
3. Assign Exposure Likelihood (**Rare, Unlikely, Possible, Likely, Very Likely**), Severity (**Catastrophic, Major, Moderate, Minor, Insignificant**) and Risk Level (**Extreme, High, Medium, Low**) for the task/situation without controls (W/out) and with controls (With).
4. State possible control measures for the task/situation in the final column.
5. Controls must be implemented for such that the risk level with controls (With) is Low.
6. Use Appendix A to attach any relevant photos.

	Lists of potential tasks/situations during instruction.	Potential hazardous conditions associated with the task/situation.	Likelihood		Consequence		Risk Level		Possible Controls
			W/out	With	W/out	With	W/out	With	See Table 2 for implemented control measures.
1.	Students waiting outside of the lab room prior entering the lab	Students not able to maintain 2m distance from each other.	Li	U	Mo	Mi	M	L	<ul style="list-style-type: none"> Inform students not to come to the lab earlier than 10 minutes prior to the start time. Leave the lab door opens and mark 2-m signs on the floor at and outside the entrance of the lab for students to get ready and wait for the start of the lab.
2.	Student attending lab while ill	Student infecting others due to breathing, talking, sneezing or coughing	Li	R	Ma	Mi	H	L	<ul style="list-style-type: none"> Before student enters lab, instructor or AI or technician to ask student: <ol style="list-style-type: none"> Do you have any of the following symptoms: fever, chills, new or worsening cough, shortness of breath, new or worsening cough, and shortness of breath, new muscle aches or headache, sore throat? Have you travelled outside of Canada in the last 14 days? Are you self-isolating? <p>Note: Questions above will also be posted at the lab entrance and online so students can read and answer them appropriately.</p> <p>If a student does not feel well, he or she will ask to leave.</p>
3.	Entering/exiting room	Students not being able to maintain 2m distance from each other.	Li	R	Mo	I	M	L	Each room has 2 doors. Post one as entrance only. Post the other as exit only. Mark floors with tape to indicate the direction.
4.	Getting ready to start the lab (wearing PPE)	N95 masks, safety glasses/goggles, lab coat and disposable gloves are the standard PPE specifically required for this lab due to chemicals and dust. Although not purposely for COVID-19, wearing the standard PPE is also helpful in case that 2 m distance is not maintained in the following scenarios:	Li	R	Mo	I	M	L	<ul style="list-style-type: none"> Students, faculty, staff must put on N95 masks safety glasses/goggle, lab coat and disposable gloves as soon as they enter the lab. Single use PPE will be given to the students

		<ul style="list-style-type: none"> A student walks behind another to go to washroom or leave his/her assigned working benching, as described on Section 8 and 13 below. A student has to work with another together when using a Muffle furnace, as described on Section 9 below. 							
5.	Touching lab ware, etc.	Spreading of virus due to touch points.	U	R	Mi	I	M	L	<ul style="list-style-type: none"> Designate workstations, which are at least 2 m away from each other. A technician/AI will sanitize and clean all of work surfaces and common touch points between groups of students.
6.	Faculty providing instruction	Faculty unable to maintain 2 m distance from students	Li	R	Ma	I	H	L	<ul style="list-style-type: none"> Designate teaching space so that faculty and students are at least 2 m away from each other. Faculty asks students to step away from task, more than 2 m, if faculty must observe his or her work. Faculty uses a laser pointer to help with instruction. Faculty takes the Pandemic ECP summary online education.
7.	Moving around lab to access needed items	Students unable to maintain 2 m distance from each other.	Li	R	Mo	I	M	L	<ul style="list-style-type: none"> Technicians will place all chemicals or equipment such as balance needed for lab at each student's workstation. Technician, AI and/or instructor will monitor lab and ask student to raise hand if they need any other items. Technician will fetch item for student.
8.	Moving around lab to exit for washroom, etc.	Students unable to maintain 2 m distance.	Li	R	Mo	I	M	L	<ul style="list-style-type: none"> Student (s) should raise hand if they need to go washroom. Instructor or AI will tell students to follow the floor direction and 2 m marks pathways for exist. Student will dispose his or her gloves and wash hands before exiting and after coming back. The

									student must put on new disposable gloves prior to continuing any lab work.
9.	<p>Handling of general lab equipment being shared.</p> <ul style="list-style-type: none"> Muffle furnaces, furnace shield, furnace sleeves, furnace gloves & tongs Anvils Hammers trays 	Spreading of virus due to touch points.	P	R	Ma	I	H	L	<ul style="list-style-type: none"> Furnace shield, hammer and tong surfaces will be cleaned between individual student uses with Lysol wipes. Cleaning guidance will be oriented on the first day of the labs. Students dispose their gloves, wash hands and put on new disposable gloved prior to wearing furnace mittens and sleeves. Students to wear masks and goggles underneath furnace shields. A technician/AI cleans the muffle furnaces, furnace shields, furnace sleeves, furnace mittens, tongs, anvils and hammers between groups of students.
10.	Eating/drinking in lab	Contaminated hands touching face while eating/drinking	P	R	Ma	I	H	L	<ul style="list-style-type: none"> Eating/drinking in the lab are prohibited. During the two hours lab session, if a student would like to go out for drinking, he or she has to raise hands and follow floor direction and 2 m marks pathways to exit under staff's supervision. The student has to wash hands and changes disposable gloves, as described on Section 8 above.
11.	Handouts from Faculty to students and from students to faculty	Spreading of virus due to touch points, and faculty coming within 2 m of students	P	R	Ma	I	H	L	<ul style="list-style-type: none"> Faculty will provide handouts online prior to lab so students have access to them. Instructor will give no handouts in class/lab. Students will submit their reports online. No hardcopy lab reports will be accepted.
12.	Students completing lab work at lab benches or anvil.	Students not being able to maintain 2 m distance from each other.	Li	R	Ma	I	H	L	<ul style="list-style-type: none"> Students will be stationed at assigned work stations (2 m away from each other) and will not move from this place except as directed by instructor. Fume hoods will remain on at all times during day / night and will pull room air to outside, fresh air in, minimizing the amount of virus that stays in the room. Open windows to allow fresh air.

13.	Students completed lab work and time to leave	Students not being able to maintain 2 m distance from each other.	Li	R	Ma	I	H	L	<ul style="list-style-type: none"> Follow instructor's or AI's instruction to exist the lab by follow the direction on the floor to the exist door. Before existing the lab, ensure to remove disposal masks and gloves. Place them in appropriate marked bins. Wash hands with soap and dry.
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SECTION B: To complete by the Manager/Supervisor/Chief Instructor

Table 2 – Implementing Control Measures

Directions:

1. Refer to the General Transmission Prevention Guidelines above for standard pandemic control measures.
2. List each control measure implemented, a description on how the control measure is being implemented, and state each applicable task number for the listed control.
3. Indicate if a control requires the use of Personal Protective Equipment (PPE).
4. If applicable, state how any materials needed to implement the control will be procured.

NOTE: Supplies such as PPE (gloves, face masks, N95 respirators) and sanitizing products (hand sanitizer) are in short supply and high demand, with most being sent to healthcare settings. Please keep that in consideration when implementing control measures.

Control Measure	Control Description	Tasks Controlled	PPE?		Material Procurement Details
			Yes	No	
<i>State control measure title.</i>	<i>Provide a brief description of what is the control measure.</i>	<i>List applicable task #s.</i>	Yes	No	<i>State how each item will be procured and by whom.</i>
Pandemic ECP summary online	All staff take the Pandemic ECP summary online education.	6	<input type="checkbox"/>	<input type="checkbox"/>	
Education to students	Students will follow pandemic guidelines	1, 2, 6	<input type="checkbox"/>	<input type="checkbox"/>	<p>Instructor will direct students to web sites that shows guidelines to follow.</p> <p>Instructor will give a brief orientation about the rules and procedures for using the laboratory on the first day of the labs.</p> <p>Instructor, AI/technician will reminders students end enforce the rules during the labs.</p>

Physical distancing of 2 metres	Designate work stations for students and demo space for instructor so that faculty and students are at least 2 m away from each other. Instructor ask students to step away from work, more than 2 m, if the instructor must observe it. Pathway for entering, exiting lab and using muffle furnaces, while maintaining 2 m distance from workstations to be marked.	1, 3, 6, 7, 9, 12, 13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Instructor / AI / Technician
Reducing common touch points	All crucibles and equipment including balances needed for the lab will be placed at students' workspaces in advance of lab, so each student has their own to use.	5, 7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Technician
Frequent hand washing and use of PPE	Hand washing sinks are equipped with soap and paper towels. Hand sanitizer dispenser is mounted at the entrance of the lab. Reminders by Faculty to hand wash before entering lab and when leaving lab, when removing PPE including gloves, and not to touch face.	4, 5, 6, 8, 13	<input type="checkbox"/>	<input type="checkbox"/>	N95 masks and disposable gloves will be procured by School of Energy
Cleaning of common equipment	Furnace shield hammer and tong surfaces will be cleaned between individual student uses with Lysol wipes. Furnace shields, furnace mittens, tongs, anvils, tray and hammers will be sanitized between labs (groups of students) by a technician/AI. A procedure for disinfecting will be posted online and oriented in the first day of the labs, based on BCIT OHS guidance.	9	<input type="checkbox"/>	<input type="checkbox"/>	Students and technician/AI
Prohibiting and enforcing no eating/drinking in lab	Communication to students before lab. Instructor and technician to supervise and enforce.	10	<input type="checkbox"/>	<input type="checkbox"/>	Instructor / AI / Technician

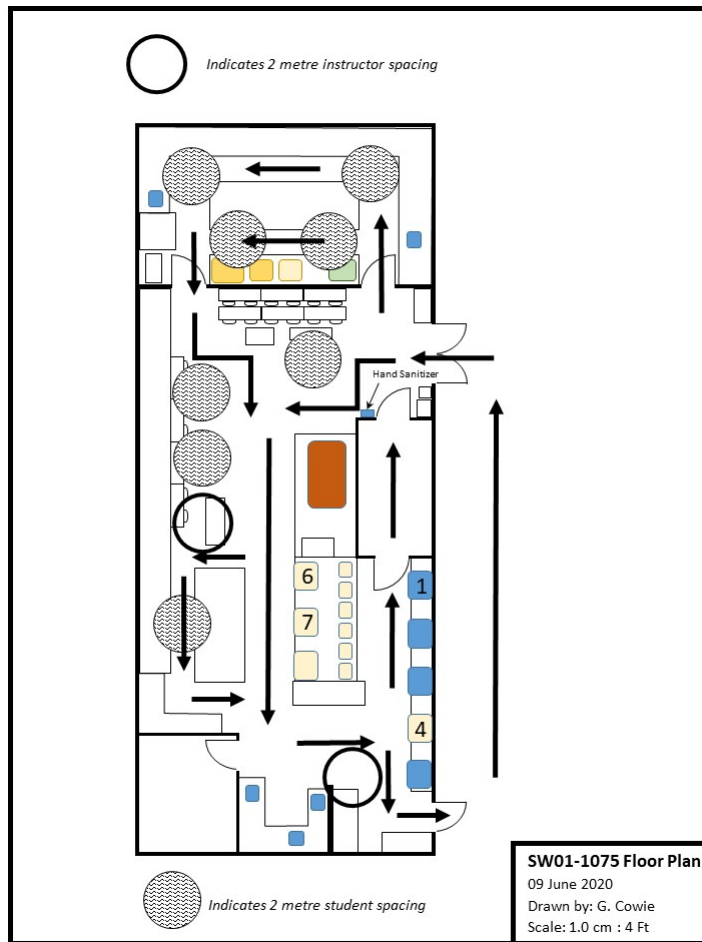
Upon Assessment Completion: Supervisor/Manager

1. Upon the completion of Tables 1 and 2, the approving supervisor/manager signs or types name in the adjacent space.
2. If you need any assistance to complete this assessment, contact BCIT OHS (ssemohs@bcit.ca).
3. Please submit a copy to BCIT OHS (ssemohs@bcit.ca) for final approval.

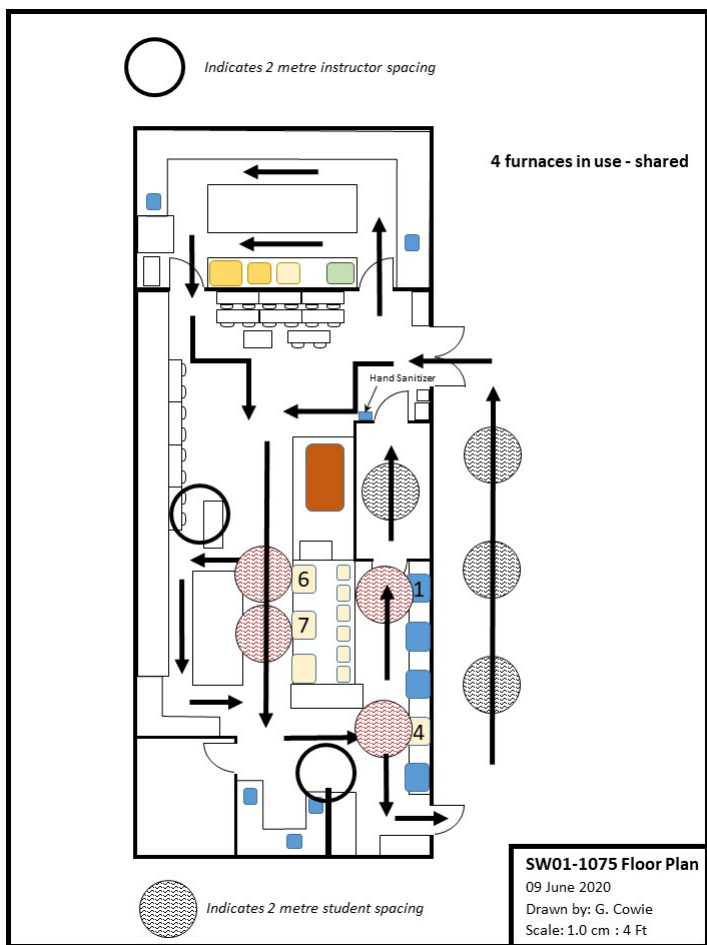
Supervisor/Manager Name: Kacem Habiballah

Approval Date: July 15, 2020

Appendix A Photographs – See also next Page



This is the layout if 8 students are working at the benches. Students are marked by gray circles. White circle indicates where instructor and AI should stand.



8 Students take turn to share 4 muffle furnaces labelled #1, #4, #6, and #7, which keep at least 2 m distance. If they need to access anything on the bench, they must do so one at a time or as directed by instructor. Black lines indicate student pathways.

Red circles indicate where students should stand in front of muffle furnaces.

White circle indicates where instructor / AI should stand.

Exit door is not to be used while lab is in session in order to maintain 2 m distances. Alternatively, instructor / AI can help students move, such that people can exit while maintaining 2 m distance.

This plan has a few advantages

- Students, faculty, staff put on PPE including N95 masks, safety glasses/goggles, and disposable gloves for the experiments in the laboratory due to handling chemicals and dust
- Fume hoods will pull out any contaminated air from Faculty, staff and students' breath.
- Windows will be opened to allow fresh air to come in.