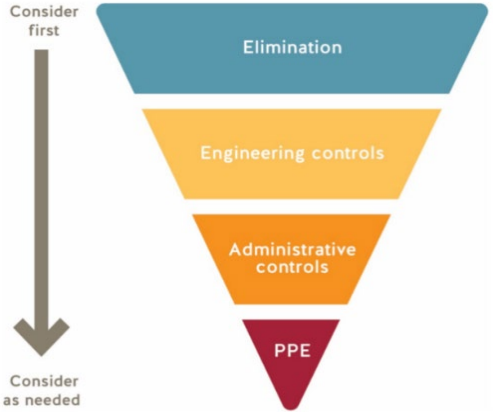
BCIT COVID-19 SAFETY PLAN
ACADEMIC SPACES

The BCIT COVID-19 Go-Forward Plan outlines the risk assessments, control measures, and the organizational process for our safe return to campus. All returning programs/courses must adhere to this process. Please refer to the BCIT COVID-19 Go-Forward Plan for additional information.

CONTACT INFORMATION

Course/Program Name:	**Biotechnology**			
Proportion of program offered on campus:	Program = 15 courses for Fall Term, 13 courses for Winter Term, about half of these courses have an in-person component in Biotechnology labs Spring/Summer Term = 2 co-op students in Biotechnology labs			
Start date:	May 1st, 2021		**End date:**	Ongoing
# of students:	Up to 36 students in total		**# of employees:**	9
Completed by:	Name Sarah McLeod	Position Department Head		Date March 17th, 2021



ROOM INFORMATION

In this section, please identify all of the rooms that will be used by this returning program/course.
NOTE: Common areas are covered by the BCIT COVID-19 Go-Forward Plan.

Campus/ Building	Room Number Floor Plans found here	Type of Space Include washrooms and breakout rooms	Capacity Current capacity due to COVID-19
Burnaby SW09	209	Main laboratory space	10 students + 2 staff
Burnaby SW09	209C	Smaller lab space (Equipment room)	2 students or 1 student+1 staff
Burnaby SW09	207B	Tissue Culture Lab	4 students + 2 staff
Burnaby SW09	207E	Smaller lab space (Fermenter room)	2 students + 1 staff
Burnaby SW09	206	Classroom (to be used as staging area)	10 students (seated) + 1 staff (standing at door)
Burnaby SW09	208	Office	8 staff
Burnaby SW09	207H	Prep Room	2 staff
Burnaby SW09	207A	Chemical Storage	1 student/1 staff
Burnaby SW09	207C	Plant growth room	1 student/1 staff
Burnaby SE4 (Greenhouse)	122	Greenhouse	2 students + 1 staff
Burnaby SE4 (Greenhouse)	121	Potting room	2 students + 1 staff

Burnaby SW03	2660	Lab	8 student + 2 staff

RATIONALE FOR ON-CAMPUS ACTIVITY

Please provide a short description explaining the need for students to be on campus. Your narrative should be focused on the practical elements of the program or activity that are critical to achieving learning outcomes, and why on campus components cannot be replicated in an online or alternative environment (e.g. student bringing learning equipment home).

The BCIT Biotechnology Program is a unique program that is joint with the University of British Columbia. Students complete 2 years of their 5 year Honours B.Sc. Degree at BCIT, where they have intensive exposure to hands on laboratory skills that are not available to students at UBC. These students then go out into the local Biotechnology Industry as co-op students and graduates and are highly sought after for their job ready skills. Certain laboratory techniques must be performed hands on in order to gain the necessary psychomotor skills to become proficient. Online demonstrations of a technique can not replace this hands-on experience. Without hands-on practice in the lab students would not gain the skills that set them apart from other undergraduate students in the Life Sciences and would not be as readily employable for co-ops and as graduates.

CONTROL MEASURES

COVID-19 SAFETY PLAN: CONTROL MEASURES CHECKLIST

Directions for completing a Safety Plan:

1. *First step of this process is to review the BCIT COVID-19 Go-Forward Plan as the overall planning document for this process.*
2. *Use this checklist as a tool to assess COVID-19 control measure preparedness for students and employees and the spaces they will be using. Refer to the BCIT COVID-19 Go-Forward Plan for standardized safety guidelines and procedures.*
3. *For each control measure, state the details. If the control measure is a 'No' or 'NA', please provide a brief explanation.*
4. *The manager requests all PPE requirements by submitting this draft Safety Plan to the PPE@bcit.ca.*
5. *Implement all the safety measures in this Safety Plan.*
6. *The manager completes a site visit to ensure all control measures and safety supplies are in place.*
7. *The manager signs the completed Safety Plan and submits it to returntocampus@bcit.ca for approval.*
8. *Once approved, the COVID-19 Safety Plan is posted in all work areas identified within this plan.*

Note: The workspaces cannot be used until all applicable control measures are in place and Safety Plan is approved. For additional resources the Risk

COVID-19 SAFETY PLAN
ACADEMIC SPACES

Assessment Controls Guidance and Hierarchy of Controls. For assistance email ssemohs@bcit.ca.

#	Control Measure	Yes	No	NA	Details (as per Directions)
ELIMINATION					
1.	Room(s) set up to allow for 2 metres physical distancing during instruction and practice. **Note:** Contact returntocampus@bcit.ca for room capacity and layout if needed.	☒	☐	☐	All student work stations/seating areas are either 2 m apart in all Biotechnology student spaces listed under room information (labs/greenhouse/classrooms) or barriers have been installed where 2m distance can not be obtained. See attached schematics for each of the Biotechnology student spaces, and the accompanying notes describing barriers that have been installed and traffic flow. Staff office (SW09 Room 208) cubicle seating is 2 m apart and staff will be working from home unless they are teaching or preparing an in-person lab, thus reducing the number of people in the office space. To maintain 2m of distance staff desks in cubicles will have taped areas where they can not work. Taped areas on floor outside cubicles will be "no standing/walking zones" to maintain 2m of distance. Staff will use good communication to navigate the central corridor between cubicles. The lunch table will not be used for Fall term. *Exceptions allowed as per BCIT COVID-19 Go-Forward Plan, Risk Matrix Summary (explain):*
2.	Demonstration, work and assessment stations are set-up to allow for 2 metres physical distancing.	☒	☐	☐	For student labs, instructors will provide all demonstrations of lab techniques as online videos for students to watch prior to coming to lab. Student work stations will be stocked with everything students need so that movement around the room is minimized. Barriers are in place in the main lab space (SW09 209) and the tissue culture room (SW09 207B) so that in the rare event that students must move around the room they can safely pass within 2m of another student's work station. See attached schematics that demonstrate 2m of physical distance and/or barrier placement in all Biotech lab spaces. In staff office space, cubicle spacing allows 2m of physical distancing. *Exception allowed as per BCIT COVID-19 Go-Forward Plan, Risk Matrix Summary (explain):*
3.	Identified area(s) where students wait outside of teaching space until allowed inside by instructor.	☒	☐	☐	Students will use SW09 room 206 as a staging area – this will avoid crowding in the hallway while students are waiting to be brought into the main lab (SW09 room 209). Students will be brought into the lab from this room in a set order to fill the lab while maintaining 2m distance (so that students don't congregate at hand washing stations as they move to their work station).
4.	Work has been scheduled to minimize numbers of individuals on campus at one time.	☒	☐	☐	Students will be in the biotechnology labs for only 1.5 days/week during fall term and winter term. Students will work in a group of only 7-10 students throughout the fall and winter terms. These student groups will be coordinated with Chemistry in order keep students in the same work group for both the Biotechnology labs and the Chemistry labs. Staff are instructed to work from

#	Control Measure	Yes	No	NA	Details (as per Directions)
					home unless they must be present to work with students in the lab or they must be present to prepare labs for students. For Spring and Summer Term only 2 students will be in the biotechnology labs, 3-5 days/week.
5.	In shared spaces, safety protocols have been put in place to reduce close contact between users.	☒	☐	☐	For shared equipment, instructors will monitor so that only 1 student is working at that shared equipment at a time, and that 2m of distance is maintained. Shared equipment will be placed where it is not 2m from any space that a student may move through. If 2m from a shared piece of equipment can not be ensured, a barrier will be moved into place. Staff will monitor their own traffic flow through the office space to ensure 2m of physical distancing is maintained. Tape marks in the office indicate spots where no standing/walking should occur.
6.	Movement within the room is identified, such as with directional arrows, for walkways and entrances/exits.	☒	☐	☐	*Signs or arrows on the floor identifying directions.* Signs and arrows will indicate directional movement throughout the labs. See schematics for the placement of arrows. Mirrors have been installed in 1 corridor where it may be hard to determine if there is someone coming towards you as you enter the space. A sign will instruct students to wait and check the mirror to ensure that no one is entering this space.
7.	Water fountains are put out of service, and only touchless water bottle filling station available.	☐	☐	☒	No water fountains are part of the Biotechnology space.
8.	Mobile fans have been removed or put out of service.	☐	☐	☒	No mobile fans are part of the Biotechnology space.
7.	Washrooms have been identified.	☐	☐	☒	*If yes, Washroom occupancy limit _____* No washrooms are designated as part of the Biotechnology space.
8.	Break area(s) for student use have been identified.	☒	☐	☐	*If yes, what control measures are in place to maintain physical distancing?* Students will be using SW09 Room 206 as a break area if they have another lab on the same day or are working as co-op students during the Spring/Summer term. Tables will be rearranged as shown in the schematic for this room and spots where students can sit will be marked. Staff will monitor frequently for compliance and disinfect tables following student use. Staff have key access to this room. *Occupancy Limit____10__ If there is an occupancy limit, is sign posted? Y ☒ N ☐*
9.	Break areas for employee use have been identified.	☐	☐	☒	*If yes, what control measures are in place to maintain physical distancing?* Instructors will take breaks in the biotechnology office space (Room 208). 2m of distance is maintained and hand sanitizer will be used to disinfect hands when common touchpoints need to be accessed (such as door handles or fridge handles). *Occupancy Limit___8_____ If there is an occupancy limit, is sign posted? Y ☒ N ☐*
10.	Other:	☐	☐	☒	
ENGINEERING CONTROL MEASURES					

#	Control Measure	Yes	No	NA	Details (as per Directions)
11.	Barriers are implemented to separate work areas or walk ways, when physical distancing not practical.	☒	☐	☐	Barriers have been installed down the middle of lab benches (where students would be seated facing them) and in the middle of aisles in SW09 209 (so that students who need to exit the lab during a lab can walk past another student's work station). In SW03 2660 barriers have also been installed down the middles of lab benches and in lab aisles. Barriers have been installed around student work stations in SW09 207B**.** See attached schematics.
12.	Barriers are stable and do not introduce other safety hazards, e.g. tripping.	☒	☐	☐	
13.	The impact on ventilation requirements have been considered if there's been a significant use change for the instructional space.	☐	☐	☒	*Complete a Facilities and Campus Development work requisition for assessment, as needed.* No use change has occurred.
	Other:	☐	☐	☐	
SIGNAGE (ADMINISTRATIVE) *Signage is available @ BCIT online Inventory. Guidelines for posting signs are available on ShareSpace.*					
13.	Posted: Physical distancing (2 m) sign(s) Item 1A	☒	☐	☐	
14.	Posted: Hand washing sign(s) Item 29B	☒	☐	☐	
15.	Posted: Health screen sign(s) Item 3C	☐	☒	☐	Will be posted at entrance of building, so Biotechnology not responsible for this posting
16.	Posted: Hand washing sink location sign(s) Item 14A	☒	☐	☐	
17.	Posted: Hand sanitizing station location sign(s) Item 13A	☐	☐	☒	There are many hand washing sinks in the Biotechnology lab spaces (5 in SW09 room 209, 1 in room SW09 209B, 2 in SW09 room 207B, 3 in SW03 2660), so hand sanitizing stations are not necessary. In the greenhouse a handwashing sink has been installed in September 2020.
18.	Posted: Protect yourself sign(s) Item 21A	☐	☒	☐	Will be posted at the entrance of the building, so biotechnology not responsible for this posting
19.	Posted: Occupancy limit of this room sign(s) Item 37A	☒	☐	☐	
20.	Posted: Other signs	☒	☐	☐	*Please list:* Signs to indicate directional flow have been obtained and will be posted.
ORIENTATION AND TRAINING (ADMINISTRATIVE)					
21.	Routine safety discussions held to review control measures and safety protocols.	☒	☐	☐	The Biotechnology Staff have had frequent discussions since the beginning of May 2020 around planning for in-person labs.
22.	All students have completed the online Pandemic Exposure Control Plan training.	☒	☐	☐	*How will compliance be checked:* Students will email a copy of their certificate to the Biotechnology Program Head, who will keep them on file. They will need to have completed the training in order to start in the lab.
23.	COVID-19 safety Site orientation for students has been	☒	☐	☐	In Fall 2020, Biotechnology students were required to complete a module on the Learning Hub around COVID-19 Safety designed by the Department that specifically

#	Control Measure	Yes	No	NA	Details (as per Directions)
	developed and posted in the Learning Hub.				applies to the Biotechnology lab spaces. Students will be instructed to watch the safety videos and review the content again before the start of Fall Term, Winter Term or Spring/Summer Term (co-op students only). *Procedure for orientation found here.* *Student COVID-19 Orientation Checklist found here.*
24.	All employees have completed the online BCIT Pandemic Exposure Control Plan Training.	☒	☐	☐	
25.	All employees have completed the online New Employee Orientation module.	☒	☐	☐	*New and Returning Employee Orientation Checklist found here.* *Each employee to save the checklist to their online New Employee Orientation course*
26.	Other:	☐	☐	☐	
RULES AND GUIDELINES (ADMINISTRATIVE)					
27.	All unnecessary and self-serve items have been removed from the spaces. *e.g., pens, paper, etc.*	☒	☐	☐	*All supplies asked for prior to class and stocked at each workspace*
28.	Doors that students are to use to enter and exit have been clearly identified.	☒	☐	☐	*Signs or arrows on the floor*
29.	Handouts, papers, and items are not physically provided to students.	☒	☐	☐	*If items are provided, they are cleaned between student use or disposed, or other control measures are in place – Describe:* Students will be each given a paper copy of their labs/protocols, since they will need this when they are working through the labs at their work stations. These will be placed in their designated containers in the lab that they will use for storing their lab coat at least 48 hours before the start of their lab.
30.	Students have dedicated tools/equipment, e.g., items are not shared between students.	☒	☐	☐	
31.	If cleaning common touch points or tools/equipment not practical, then it is identified when hands are washed/sanitized before and after use.	☒	☐	☐	*Explain:* Students will always wear gloves within the lab. They will disinfect gloves before and after accessing common touchpoints with 70% Ethanol. Spray bottles of 70% Ethanol will be placed near to any common touchpoints, as well as at each student work station. This way, common touchpoints which might be difficult to disinfect will be protected because the gloves touching these will be disinfected.
32.	Work spaces/stations are dedicated for an individual or group use and not shared with others.	☒	☐	☐	
33.	Single-use (disposable) products are used where feasible.	☒	☐	☐	
34.	Measures are in place to accommodate student sick at home.	☒	☐	☐	*Accommodation plan:* Students will complete an online version of the lab and instructors will make sure that

#	Control Measure	Yes	No	NA	Details (as per Directions)
					hands-on skills that were missed will be made up for at a later date.
35.	Procedures in place to screen students on a daily basis.	☒	☐	☐	*The health screen poster is available for reference and is posted on building doors. Students and employees are expected to self assess daily, and the BCCDC self-assessment tool can be used to support this.*
36.	There is a procedure in place if a student or employee becomes ill on campus.	☒	☐	☐	*Refer to the COVID-19 Pandemic Scenario Playbook for more information. If the person is reporting symptoms, ask them to avoid others and return home. If they require immediate medical attention, call First Aid and 911.*
37.	There are procedures in place if a student or employee travels before coming to campus, or has been in close contact with someone who has tested positive for COVID-19.	☒	☐	☐	*Refer to the COVID-19 Pandemic Scenario Playbook for more information. Confirm if the person is aware of self-isolation requirements and protocols.* If students must self quarantine they will complete an online version of the lab and instructors will make sure that hands-on skills that were missed will be made up for at a later date.
38.	Provisions made for students to maintain same lab/class cohort throughout the Term.	☒	☐	☐	Each cohort of Biotechnology students (1st and 2nd years) will be split into 2 groups. Students will remain with this group for all labs for the entire Fall and Winter Term. For Spring/Summer Term the 2 co-op students will come to lab at the same time.
39.	Other:	☐	☐	☐	
PERSONAL PROTECTIVE EQUIPMENT (PPE)					
40.	Appropriate PPE for the hazards of employee and student tasks are available to be provided (non-COVID-19 related ppe).	☒	☐	☐	*List the ppe and tasks/activities it is required for:* Students in the biotechnology lab typically use disposable nitrile gloves while working in the lab. These are purchased as part of the Biotechnology Program budget and are already obtained.
41.	Training is provided for the above PPE to students and employees.	☒	☐	☐	This training is already part of the biotechnology lab safety course (non-COVID).
42.	Appropriate PPE for COVID-19 is available to be provided to students and employees. Supply requests emailed to ppe@bcit.ca.	☒	☐	☐	*Based on circumstances allowed for in the BCIT COVID-19 Go-Forward Plan, Risk Assessment Matrix Summary.* *List PPE and tasks/activities required for:* All staff in the Biotechnology Program will wear disposable procedural masks, and if they desire, face shields, while working with students. Students will wear masks and will be provided with a disposable mask when they enter the lab. Students and staff will be instructed in the proper donning and doffing procedures for these masks.
43.	PPE safe donning, doffing, disposal, and disinfecting instructional materials are available for students and employees.	☒	☐	☐	*Post applicable signs in a visible location if ppe required.* *Use the Student Orientation checklist to assist orientation/training by instructors.* *Use the Employee Orientation checklist to assist orientation/training by their supervisors.* Students and staff will be instructed on the proper use of gloves and masks.
44.	Other:	☐	☐	☐	

#	Control Measure	Yes	No	NA	Details (as per Directions)
CLEANING					
45.	Facilities is aware of the cleaning needs for the area. Facilities work requests have been submitted.	☒	☐	☐	*Cleaning includes common touch points and appropriate frequency for the area. This includes high touch areas. Provide FCD work request number(s).* Facilities work request has been submitted for all rooms that will be used for 2021 Spring/Summer term – Facilities work request #1468511
46.	Training will be provided to faculty and students performing cleaning duties and cleaning materials have been provided.	☒	☐	☐	*Cleaning Standard Operating Procedures have been located here. What are the cleaning products/materials:* In order to control the risk of COVID-19 infection from surfaces, students will be instructed to spray down equipment at their work station with 70% Ethanol in order to disinfect it before other students use that workstation. Instructors will monitor for compliance. Instructors will be instructed to clean common touchpoints like door handles and sink handles with disinfectant wipes/70% Ethanol before students enter the lab and after students leave. A checklist system will be used to ensure that this has taken place before and after students are in the lab. Biotechnology has purchased enough Ethanol to use for Winter term and this will be made available to students and staff as a 70% solution in spray bottles. *What ppe is required:* Biotechnology has requested 12 containers of disinfectant wipes for 2021 Winter Term from ppe@bcit.ca. 70% Ethanol will be made by the program, sufficient Ethanol has been obtained.
47.	Assessment of sufficient number of hand wash stations conducted, and an appropriate number of handwashing stations are available	☒	☐	☐	*Consider time it will take for hand washing to take place, to determine what is e.a. sufficient number of hand wash stations. Some areas find a ratio of 8:1, students to sink, effective. The minimum amount of hand washing required is once before class starts, after class ends and before and after breaks.* Students (no more than 10 students at a time) will enter SW09 room 209 and wash their hands immediately before proceeding to their work stations and putting on their lab coats. There are 5 handwashing sinks in this room. Time will be allotted at the beginning of labs to allow for sufficient handwashing. Students working in room 209B (no more than 2) have access to 1 handwashing sink. Students working in room 207B (no more than 4) have access to 2 handwashing sinks. Students will wash their hands again before leaving the lab.
48.	Handwashing station(s), stocked, easily accessed, and have been identified to students and employees.	☒	☐	☐	*Sink Location:_SW09 209 (5). 209B (1), 207B (2), SE04 Room 121 (1), SW03-2660 (2)* *Stocked with soap Y ☒ N ☐ paper towel Y ☒ N ☐*
49.	Hand sanitizing station(s), stocked, and have been identified to students and employees.	☐	☐	☒	***ABHS** (Alcohol-Based Hand Sanitizer): Location(s)_All staff desks, beside photocopier, near entry door of office_(SW09-208)_____* *Will hand sanitizer be refilled by department: Y ☒ N ☐*

#	Control Measure	Yes	No	NA	Details (as per Directions)
					If No, describe: Due to the large number of hand washing stations in the Biotechnology labs and the use of nitrile gloves in the lab, hand sanitizing stations are not necessary in the labs. The exception is the staff office (SW09-208) where staff will have access to hand sanitizer supplied by ppe@bcit.ca
50.	All Safety Data Sheets (SDS) and cleaning procedures used are found here.	☒	☐	☐	*If not, describe:*
51.	The area(s) have been decluttered so that cleaning is simplified.	☒	☐	☐	
52.	Barrier cleaning process has been arranged if the barrier(s) could become contaminated.	☐	☒	☐	*Barriers can become contaminate if they are a touch point or if the contaminated with droplets by e.g. coughing or sneezing.* Barriers in SW09 room 209, SW03 room 2660, SW09 room 207B and SW03 room 2660 will be disinfected with 70% Ethanol.
53.	Common touch points and tools/equipment that must be shared are identified and cleaned between students and classes.	☒	☐	☐	*Cleaning/sanitizing procedures for common touch points and shared items are posted e.g. shared machinery, equipment, tools, etc. Identify who will clean and how often (e.g. staff and/or students):* At the end of lab, students will disinfect any common items at their workstations with 70% Ethanol. All student workstations will be equipped with a 70% Ethanol spray bottle for this purpose. Instructors will be responsible for disinfecting common touchpoints such as sink handles before and after students are in labs with either 70% Ethanol or disinfectant wipes (wipes already obtained from ppe@bcit.ca)
54.	Storage space for personal articles have been identified and are cleaned regularly.	☒	☐	☐	The biotechnology labs in SW09 are Biosafety level 2 labs. Student's personal articles can not come into the lab. For that reason, Biotechnology is using SW09 Room 206 as a staging area for students and a storage area for their personal articles. In the biotechnology labs students will need to store their lab coat while not in use. They can not remove them from the lab due to Biosafety reasons. Plastic containers have been purchased for each student and these will be used to store the lab coats. Each student will be responsible for disinfecting the exterior of their container with 70% Ethanol at the end of each lab period. They will be instructed not to touch any other student's container.
55.	Other:	☐	☐	☐	
AUDIT AND CONTINUOUS IMPROVEMENT					

#	Control Measure	Yes	No	NA	Details (as per Directions)
56.	There is a plan to conduct regular inspections of all control measures and safety protocols to ensure they are in place.	☒	☐	☐	*Ensure this COVID-19 Safety Plan is posted. Who will conduct these inspections and how often?* Program head will walk through areas in use by students before the start of in person labs in order to ensure everything is in place. Instructors/Assistant Instructors/co-op supervisors will be expected to perform an inspection before the start of each lab/co-op student work day.
57.	Audits of inspections are planned to ensure that control measures continue to be effective.	☒	☐	☐	***Who conduct the audits and how often?*** Program Head will inspect the Biotechnology lab operations and complete audit forms once per month in order to ensure measures continue to be effective.

APPROVAL

All COVID-19 risk control measures for this campus activity are in place.			
Manager	Name Cheryl Isaak	Position Cheryl Isaak, Interim AD	Date March 23, 2021
EOC	Name Glen Magel	Position EOC Director	Date April 1, 2021