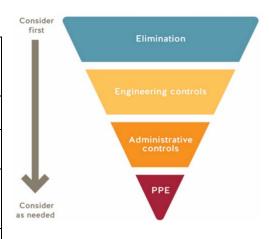


The BCIT COVID-19 Go-Forward Plan outlines the risk assessments, control measures, and the organizational process for our safe return to campus. All returning programs/courses must adhere to this process. Please refer to the <u>BCIT COVID-19 Go-Forward Plan</u> for additional information.

#### **CONTACT INFORMATION**

Course/Program Name:	MECH3355 Fluid Power 1/Mechanical Engineering Technology & Mechatronics and Robotics Technology							
Proportion of program offered on campus:	MTEC7054 Manufacturing Control Systems/BTech in Manufacturing PTS  2 out of 7 courses this term have some on-campus activity							
Start date:	Sept 14, 2020		End date:	Dec 4, 2020				
# of students:	110 total in course, 7 sets of 3 divided into subsets of 6 takin every third week	•	# of employees:	3 (2 faculty, 1 assistant instructor)				
Completed by:	Name Adrian Fengler (AI), Brent Dunn (AD)	Position Assistant Associate	Instructor,	Date August 24, 2020				



#### **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.

NOTE: Common areas are covered by the			
Campus/ Building	Room Number Floor Plans found here	Type of Space Include washrooms and breakout rooms	Capacity  Current capacity due to COVID-19
Burnaby SW3	SW3-1990	Fluid Power (Pneumatics, Hydraulics) Lab	6 students, 1 instructor, total 7



#### **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).

Access to specialized equipment and hands-on activities is important for learning.

#### **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 <a href="mailto:returntocampus@bcit.ca">returntocampus@bcit.ca</a> 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 <u>Risk</u> <u>Assessment Controls Guidance and Hierarchy of Controls</u>. For assistance email <u>ssemohs@bcit.ca</u>.

#	Control Measure	Yes	No	NA	Details (as per Directions)
ELIN	IINATION				
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.				Exceptions allowed as per <u>BCIT COVID-19 Go-Forward Plan</u> , Risk Matrix Summary (explain):  3 workstations are mounted to each base and cannot be separated or moved.  Since 2m spacing cannot be achieved, barriers will be added between workstations as shown in the included floor plan.
2.	Demonstration, work and assessment stations are set-up to allow for 2 metres physical distancing.				Exception allowed as per <u>BCIT COVID-19 Go-Forward Plan</u> , Risk Matrix Summary (explain):  See floor plan for instructor location.
3.	Identified area(s) where students wait outside of teaching space until allowed inside by instructor.				Lab will be open prior to class start. Students will proceed directly into the lab to their workstations.
4.	Work has been scheduled to minimize numbers of individuals on campus at one time.				Maximum of 6 students per lab session instead of 18-20 normally in the session.
5.	In shared spaces, safety protocols have been put in place to reduce close contact between users.				There are no shared spaces in lab.
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.  Markings will be placed. Students will be called into room in order so they can proceed to their workstations while maintaining social distance from other students. Students will be required to exit in sequential order to maintain social distance.
7.	Water fountains are put out of service, and only touchless water bottle filling station available.			$\boxtimes$	No water fountains
8.	Mobile fans have been removed or put out of service.				No fans
7.	Washrooms have been identified.				There are no washrooms in the wing of the building where the lab is located. Students will need to walk to another section of the building in SW3.
8.	Break area(s) for student use have been identified.				Lab sessions are 1 ¾ hours so students should not require a break during the lab.
9.	Break areas for employee use have been identified.			$\boxtimes$	Lab sessions are 1 ¾ hours so faculty should not require a break during the lab.
10.	Other:				
ENG	INEERING CONTROL MEASURES				



#	Control Measure	Yes	No	NA	Details (as per Directions)
11.	Barriers are implemented to separate work areas or walk ways,	$\boxtimes$			See included floor plan and list of barriers.
	when physical distancing not practical.				
12.	Barriers are stable and do not introduce other safety hazards,	$\boxtimes$			
	e.g. tripping.	ļ			
13.	The impact on ventilation requirements have been considered if			$\boxtimes$	Complete a <u>Facilities and Campus Development work requisition</u> for assessment, as needed.
	there's been a significant use change for the instructional space.				neeueu.
	Other:				
SIGN	l IAGE (ADMINISTRATIVE) Signage is available @ BCIT onlii	no Inve	ntoru	Cuid	olines for necting signs are quallable on ShareCoase
	, , , , , , , , , , , , , , , , , , , ,	1	ntory.		ennes for posting signs are available on <u>snarespace</u> .
13.	Posted: Physical distancing (2 m) sign(s) Item 1A	$\boxtimes$			
14.	Posted: Hand washing sign(s) Item 29B			$\boxtimes$	No handwashing facility
15.	Posted: Health screen sign(s) Item 3C	$\boxtimes$			
16.	Posted: Hand washing sink location sign(s) Item 14A			$\boxtimes$	No handwashing facility
17.	Posted: Hand sanitizing station location sign(s) Item 13A	$\boxtimes$			
18.	Posted: Protect yourself sign(s) Item 21A	$\boxtimes$			
19.	Posted: Occupancy limit of this room sign(s) Item 37A	$\boxtimes$			
20.	Posted: Other signs				Please list:
	NTATION AND TRAINING (ADMINISTRATIVE)	T .	ı		
21.	Routine safety discussions held to review control measures and	$\boxtimes$			
	safety protocols.				
22.	All students have completed the online COVID-19 Pandemic On-				How will compliance be checked: Instructor will check prior to first lab session.
	Covidence Covide	$\square$			Procedure for orientation found here.
23.	developed and posted in the Learning Hub.				Student COVID-19 Orientation Checklist found here.
24.	All employees have completed the online BCIT Pandemic	$\boxtimes$			- Comment of the Comm
24.	Exposure Control Plan Training.				
25.	All employees have completed the online New Employee	$\boxtimes$			New and Returning Employee Orientation Checklist found <u>here</u> .
.دع	Orientation module.				Each employee to save the checklist to their online New Employee Orientation course
26.	Other:				
RULE	ES AND GUIDELINES (ADMINISTRATIVE)				



#	Control Measure	Yes	No	NA	Details (as per Directions)					
27.	All unnecessary and self-serve items have been removed from	$\boxtimes$			All necessary supplies stocked at each workspace.					
	the spaces. e.g., pens, paper, etc.									
28.	Doors that students are to use to enter and exit have been	$\boxtimes$			Signs or arrows on the floor					
	clearly identified.									
29.	Handouts, papers, and items are not physically provided to	$\boxtimes$								
	students.									
30.	Students have dedicated tools/equipment, e.g., items are not	$\boxtimes$			No sharing during a class session. Multiple sessions with different cohorts occur some					
	shared between students.				days so all equipment to be cleaned after each session.					
				L	Facilities work request submitted for cleaning. Work Request , 1450494					
31.	If cleaning common touch points or tools/equipment not	$\boxtimes$			Too many small individual items to clean manually. Clorox 360 after each lab session.					
	practical, then it is identified when hands are washed/sanitized									
	before and after use.									
32.	Work spaces/stations are dedicated for an individual or group	$\boxtimes$			No sharing during a class session. All equipment to be cleaned between sessions.					
	use and not shared with others.									
33.	Single-use (disposable) products are used where feasible.	$\boxtimes$			Gloves will be single use. None of the equipment is single use/disposable.					
34.	Measures are in place to accommodate student sick at home.	$\boxtimes$			Accommodation plan: Students who miss a lab will be given an alternate					
					assignment or allowed to make up the lab at a later date.					
35.	Procedures in place to screen students on a daily basis.	$\boxtimes$			The <u>health screen</u> poster is available for reference and is posted on building doors.					
					Students and employees are expected to self assess daily, and the <u>BCCDC self-assessment</u> tool can be used to support this.					
36.	There is a procedure in place if a student or employee becomes	$\boxtimes$			Refer to the <u>COVID-19 Pandemic Scenario Playbook</u> for more information. If the person is					
	ill on campus.				reporting symptoms, ask them to avoid others and return home. If they require					
	- III 617 55111 P 651				immediate medical attention, call First Aid and 911.					
37.	There are procedures in place if a student or employee travels	$\boxtimes$			Refer to the COVID-19 Pandemic Scenario Playbook for more information. Confirm if the					
	before coming to campus, or has been in close contact with				person is aware of self-isolation <u>requirements</u> and <u>protocols</u> .					
	someone who has tested positive for COVID-19.									
38.	Provisions made for students to maintain same lab/class cohort	$\boxtimes$			Standard cohort of 18 students will be subdivided into smaller groups of 6 to					
	throughout the Term.				ensure physical distancing. Students will stay within their smaller group of 6 for					
	-				this course for the term.					
39.	Other:									
PERS	SONAL PROTECTIVE EQUIPMENT (PPE). Refer to the PPE F	lowcha	rt to d	leterm	ine what PPE is required for COVID-19 purposes.					
40.	Appropriate PPE for the hazards of employee and student tasks	$\boxtimes$			List the ppe and tasks/activities it is required for, and provide the quantity and unit of					
	are available to be provided (non-COVID-19 related ppe).				measure, if applicable (e.g. 2 boxes of 20 each box):					

SSEM, OHS Division COVID-19 Safety Plan Date: July 21, 2020 Page 5 of 15



#	Control Measure	Yes	No	NA	Details (as per Directions)
					Safety glasses and safety footwear are required for the course and are provided by the student.
41.	Training is provided for the above PPE to students and employees.	$\boxtimes$			Instruction is given at the first lab session of the course.
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 <u>BCIT COVID-19 Go-Forward Plan</u> , Risk Assessment Matrix Summary.  List PPE and tasks/activities required for and provide the quantity and unit of measure, if applicable (e.g. 2 boxes of 20 each box):  See table below.
43.	PPE safe <u>donning</u> , <u>doffing</u> , <u>disposal</u> , <u>and disinfecting instructional</u> materials are available for students and employees.				Post applicable signs in a visible location if ppe required. Use the <u>Student Orientation checklist</u> to assist orientation/training by instructors. Use the <u>Employee Orientation checklist</u> to assist orientation/training by their supervisors.
44.	Other:				
CLEA	INING				
45.	Facilities is aware of the cleaning needs for the area. Facilities work requests have been submitted.	$\boxtimes$			Cleaning includes common touch points and appropriate frequency for the area. This includes high touch areas. Provide FCD work request number(s)
					All equipment to be cleaned between lab sessions. Work Request , 1450494
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 <a href="here">here</a> . What are the cleaning products/materials:  What ppe is required: Cleaning is not required by staff and students.
47.	Assessment of sufficient number of hand wash stations conducted, and an appropriate number of handwashing stations are available				No sinks in classroom. Hand sanitizer to be provided at entrance and at each workstation.
48.	Handwashing station(s), stocked, easily accessed, and have been identified to students and employees.				Sink Location: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)_Large bottle at entrance plus small bottle at each workstation  Will hand sanitizer be refilled by department: Y ⋈ N □  If No, describe: Hand pumps will be used and replenished with new bottles when empty.

SSEM, OHS Division COVID-19 Safety Plan Date: July 21, 2020 Page 6 of 15



#	Control Measure	Yes	No	NA	Details (as per Directions)
50.	All Safety Data Sheets (SDS) and cleaning procedures used are found <a href="here">here</a> .	$\boxtimes$			If not, describe: SDS are always available for materials normally used in the lab, however, SDS sheets are not provided for special cleaners that will be used by cleaning contractors.
51.	The area(s) have been decluttered so that cleaning is simplified.	$\boxtimes$			
52.	Barrier cleaning process has been arranged if the barrier(s) could become contaminated.	$\boxtimes$			Barriers can become contaminate if they are a touch point or if the contaminated with droplets by e.g. coughing or sneezing. All equipment to be cleaned between sessions. Clorox 360 by Facilities, can be multiple times/day.
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): All equipment to be cleaned between sessions. Clorox 360 by Facilities, can be multiple times/day
54.	Storage space for personal articles have been identified and are cleaned regularly.	$\boxtimes$			Who will clean: All equipment to be cleaned between sessions. Clorox 360 by Facilities, can be multiple times/day Where is the storage: Dedicated table adjacent to each workspace.
55.	Other:				
AUDIT AND CONTINUOUS IMPROVEMENT					
56.	There is a plan to conduct <u>regular inspections</u> of all control measures and safety protocols to ensure they are in place.	$\boxtimes$			Ensure this COVID-19 Safety Plan is posted. Who will conduct these inspections and how often? Faculty will perform inspections on a weekly basis.
57.	Audits of inspections are planned to ensure that control measures continue to be effective.	×			Who conduct the audits and how often? Program Head – weekly Associate Dean - Monthly

#### **APPROVAL**

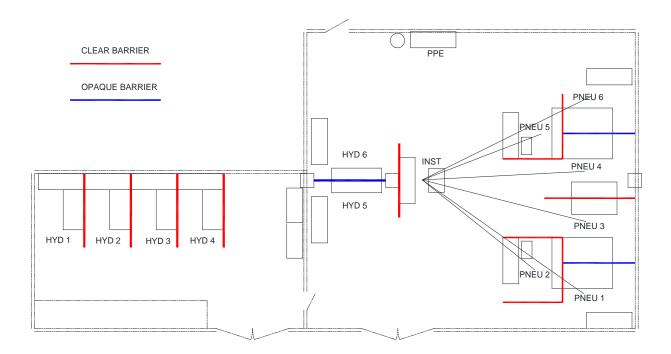
All COVID-19 risk control measures for this campus activity are in place.							
Manager	Name  BROwn  Brent Dunn	Position Associate Dean	Date Sept 8, 2020				
EOC	Name Gleu Magel	Position EOC Director	Date September 12, 2020				





#### Fluid Power 1-MECH-3355: SW03-1990

Notes: This room features two activity centres for a single 6-student cohort. When utilizing the fluid power boards, students would access their stations in a physically distanced manner, while workstations would be buffered with a barrier. A single larger double-sided unit (HYD<sup>5</sup> and HYD<sup>6</sup>) will feature a barrier bisecting the equipment. When students are gathered around the two bench clusters, an instructor demonstration area will be established in the location marked *Inst*. Entry and exit into stations will be sequential to assure distancing. The bench clusters will be moved apart to enable circulation and installation of barriers. Barriers will be clear to support unobstructed sightlines for supervision. A dedicated table will be positioned adjacent to each of the station PNEU<sup>1</sup>-PNEU<sup>6</sup> and HYD<sup>1</sup>- HYD<sup>6</sup>. PNEU<sup>2</sup> and PNEU<sup>5</sup> require a rolling equipment cart for lab equipment, all other workstations have equipment in the station cabinets. The remainder of standard classroom furniture and miscellaneous equipment will be moved aside to enable physically distanced pathways.



SSEM, OHS Division COVID-19 Safety Plan Date: July 21, 2020 Page 9 of 15







Course	MECH 3355 Fluid power 1
Program	Mechanical Engineering Technology, Design and Manufacturing Options, Mechatronics and Robotics
Number of students	6 max (1 lab session/week, students will attend every third week)
Description of Equipment used	6 pneumatic training workstations (3 stations share a common base) – used for first 2 labs
	OR
	6 hydraulic training stations (4 are separate, 2 share a common base) – used for final lab starting in November
Why do students need to use this	Students require access to specialized, expensive equipment so they have a meaningful educational
space? What's special that cannot be	experience.
done at home?	

Course	MTEC 7054 Manufacturing Control Systems (PTS – Tue/Thu evenings, mostly online but may use lab)
Program	BTEC in Manufacturing
Number of students	6 max (a few lab sessions over the 12 week course)
Description of Equipment used	6 pneumatic training workstations (3 stations share a common base)
Why do students need to use this	Students require access to specialized, expensive equipment so they have a meaningful educational
space? What's special that cannot be	experience.
done at home?	

#### Barriers

Location	Quantity	Size (WxH inches)	Mounting (Free standing, table top, etc.)	Opaque/Clear	Make/Buy	Comment
PNEU 2, PNEU 5	2	84 x 54	Table top . CUSTOM	Clear	Make	Part of T shaped arrangement. Should be clear. To extend beyond workstation one end
PNEU 2, PNEU 5	3	96 X 90	Free standing on floor	Clear	Make	
PNEU 1/3, PNEU 4/6	2	96 x x54	Table top CUSTOM	Clear	Make	Part of T shaped arrangement. Can be opaque. To extend



						beyond workstation to exterior wall
PNEU 3/4	1	120 x 90	Free standing on floor	Clear	Make	To extend beyond workstation to exterior wall
INST	1	96 X 90	Free standing on floor	Clear	Make	
FP1-FP3	3	96 x 90	Free standing on floor	Clear	Make	To extend beyond workstation between adjacent tables
FP5/FP6	1	96 x 54	Fixed between tandem workstation CUSTOM	Clear	Make	Mounted at bench height. To extend beyond workstation at each end

#### PPE

Item	Quantity	Consumption rate	Location	Comment
Pump bottle hand sanitizer	9	3ml/ application, 90 applications/week 270ml/week	At lab door sanitizing location At each active workstation At instructor table	In lieu for Sanitizing station. Used upon entry and prior to exit of lab
Nitrile gloves (medium)	Box 100	4/session. 30/week. 1 box/3 weeks		Hydraulics lab only, non- Covid related
Nitrile gloves (large)	Box 100	10/session. 70/week. 2 box/3 weeks		Hydraulics lab only, non- Covid related
Face Coverings	Box 100	6/session. 35/week. 1 box/3 weeks	At sanitizing station	Used if student and instructor need to be in close proximity for troubleshooting
Garbage receptacles	2	Non-consumable	At doffing locations	Promote good hygiene / minimize contamination and movement required.
Plastic garbage liners	Box 200	1/session. 7/week	At doffing locations	



### Signage

Sign type	Location	Quantit	Comment		
		у			
Mask use	Donning location	1	https://sharespace.bcit.ca/sites/sas/Exposure%20Control%20Plan/help-prevent-spread-covid-19-how-to-use-mask-pdf-en.pdf Worksafe BC poster		
Hand sanitizing 13A	At entrance	1			
Distancing 2m, 1A	In room In corridor	4			
2 way Traffic 25A	corridor	4			
Stand here 23E	workstation	12			
Wait here 19F	Que	6			
Occupanc y Limit 37A	Door outside	2			
Glove use	Donning location	1	https://sharespace.bcit.ca/sites/sas/COVID19%20Safety%20Plan%20Resources/COVID19 MOH BCCDC Doffing.pd f BCCDC Poster		
Protect Yourself 21A	In room	1			
Health Screening 3C	Room entrance/queu e	1			



#### Lab and Cleaning Schedule

Work request 1450494. SW3-1990 Fall 2020 COVID 19 Safety Plan Sanitizing Schedule								
	Monday	Tuesday	Wednesday	Thursday	Friday			
8:30					Lab Session			
9:30		Lab Session			8:30- 10:20			
10:30		9:30- 11:20		Lab Session	Sanitize			
11:30		Sanitize		10:30- 12:20	Lab Session			
12:30		Lab Session		Sanitize	11:30-1:20			
1:30		12:30-2:20			Sanitize			
2:30	Lab Session	Sanitize						
3:30	2:30-4:20	Lab Session						
4:30	Sanitize	3:30-5:20						
5:30		Sanitize						

#### **Procedures**

Include all COVID-related safety procedures (room management, student movement, cleaning, hygiene) that will be shared with students

#### 1. Procedures for room management (if applicable)

- > Lab will be open prior to class start. Students will proceed directly into the lab.
- > Students will be required to use hand sanitizer prior to upon entering the lab space and confirm they have no illness or symptoms of illness.
- > Students will be instructed to remain within their marked workstation space at all times while in the lab. Requests to leave their assigned space will be managed by the instructor.
- Any student or instructor moving about the room will be required to wear a cloth mask.
- When the instructor is required at a student workstation, both parties must be masked, and work as far as possible from each other, while maintaining space with neighbouring students.
- One student at a time will be permitted to leave the lab room for a washroom break or similar activity. This will require coordination by the instructor.
- > Upon completion of the lab activity, students will be asked to clean their hands with hand sanitizer and are ready to leave the lab room.
- > Students will exit the lab room one at a time as directed by the instructor.
- > Students will be permitted to have a small backpack at their workstations.
- Students will be permitted to drink water from a closable-top container of water.

SSEM, OHS Division COVID-19 Safety Plan Date: July 21, 2020 Page 14 of 15



#### 2. Procedures for cleaning equipment/surfaces

- > The lab equipment (computers, industrial equipment) will be de-energized at the end of the lab prior to the lab being cleaned.
- Labs will be cleaned and disinfected using the Clorox Total 360 system after each use. All surfaces, chairs, tables and equipment in the students' workstation areas will be disinfected using the Clorox Total 360 misting system.
- > Computer workstations (towers) are housed in security cages. The tops and sides of these cages will be covered with plastic sheeting to prevent disinfecting liquid or water from entering the computer. The cage volume will ensure adequate ventilation for computer cooling. This cleaning method and the protection for the computer workstations. (As approved by, Michele Morrison (Mgr., Serv. Enablement) for ECET labs)
- > No special protection measures will be required for the monitors, keyboards or mice in this lab room.

SSEM, OHS Division COVID-19 Safety Plan Date: July 21, 2020 Page 15 of 15