



THE UNIVERSITY OF BRITISH COLUMBIA

Faculty of Science

Safety Plan for the Resumption of On-Campus Research

Faculty of Science, UBC

Revised June 1, 2020

Submitted by Mark MacLachlan, Associate Dean of Research & Graduate Studies

Section 1: Overview

This document outlines UBC's Faculty of Science plan to reduce the transmission of COVID-19 during Phase 1 (and Phase 2, in places) of the resumption of on-campus research. We provide detailed protocols for keeping the workplace safe and describe the plans of individual units to ensure control over the number and flow of people within buildings that ensures physical distancing is maintained in labs, offices, and common areas.

COVID-19 is known to spread through the air and through contact with contaminated sites. The measures that we propose are specifically to interrupt transmission through these two modes. The protocols require restricting the number of personnel in individual labs and buildings, addressing room capacities and seating arrangements in common spaces, and posting signage for elevators, high traffic areas, stairwells, and shared facilities.

In Phase 1, the goal is to reduce the number of people in buildings and labs to about $\frac{1}{3}$ of normal occupancy in order to reduce contacts between people in lab spaces and in common spaces. In Phase 2, this number will increase to about $\frac{2}{3}$ of occupancy and enable more people to return to on-campus research.

In Phase 1, all Science faculty, staff, and research personnel who can work off campus must continue to do so. This will minimize the number of occupants in buildings at this time. Exemptions may only be applied on a case-by-case basis for faculty and research personnel who absolutely cannot work at home for personal reasons (e.g., children at home) and are required to be on campus to continue their research.

Note: In this document, we use "research personnel" = students, post-docs, RAs, staff, technicians, etc. for research, but *not* faculty. Faculty = research-stream tenure-track and grant-tenure faculty (except where specified that teaching-stream faculty are indicated).

Section 2: Planning Leadership Team

During April and May, Mark MacLachlan (ADR for Science) communicated with every department and unit in Science to share a document of guiding principles and proposed guidelines for the return to work. Nearly every unit had a leadership team in place to plan for the transition (see section 4), and many had drafted their own guidelines. Heads and directors were asked to identify a faculty member for a task force, and to identify any trainees that they thought would be appropriate for the committee. We struck a Return to On-Campus Research (ROCR) Committee with a faculty representative from each unit, 5 administrators, 2 post-docs, 2 graduate students, and Glenn Sammis (Chair of the Joint Occupational Health & Safety Committee for Science).

The ROCR met on Wednesday May 13th for an initial meeting along with all department heads, directors, and administrators in Science. This was followed by several meetings up to May 20th. These documents were prepared in close consultation with the ROCR Committee. Heads and directors were sent a copy of the working documents on May 18th for feedback. Dean Meigan Aronson and Mark MacLachlan held a townhall forum for all heads and directors to discuss this document.

Membership of the ROCR:

	FACULTY REPS	
1	Lacey Samuels	BOTANY
2	Laurel Schafer	CHEMISTRY
3	Jim Little	CPSC
4	Rich Pawlowicz	EOAS
5	Villy Christensen	IOF
6	Claire Kremen	IRES
7	Marc Horwitz	M&I
8	Ian Frigaard	MATH
9	Phil Hieter	MSL
10	Valery Milner	PHAS
11	David Jones	QMI/AMPEL
12	Matías Salibián-Barrera	STATISTICS
13	Doug Altshuler	ZOOLOGY
	ADMIN REPS	
14	Katie Beall	BRC
15	Tim Morgan	EOAS
16	Karen Reid	MSL
17	Sue Palichuk	M&I
18	Pinder Dosanjh	QMI/AMPEL
	TRAINEE REPS	
19	Laryssa Halat (PhD rep)	BOTANY
20	Gill Dean (postdoc/RA)	BOTANY
21	Charlotte Boott (post-doc)	CHEM
22	Ron Togunov (PhD candidate)	IOF
	SAFETY REP	
23	Glenn Sammis (Chem)	JOHSC

Section 3: Faculty-Level Guiding Principles and Responsibility Sharing

Researchers within the Faculty of Science will adhere to the guidelines set out by the VPRI:

1. The health and well-being of faculty, students and staff is paramount
2. The orders, notices and guidance of the Provincial Health Officer will be followed
3. Permission to conduct on-campus research and scholarship can only be granted to those who require on-campus resources and cannot work remotely
4. There will be a phased and coordinated approach across each campus
5. Phased resumption of activity may need to be reversed and stricter curtailment conditions imposed in response to public health guidance or changes to the situation on our campuses
6. If employees have concerns about returning to work, they are encouraged to discuss that with their supervisor, Human Resources, and their employee group as appropriate
7. Equity will be considered in evaluating how to plan and conduct research resumption

Additional Faculty-wide Principles:

1. Before coming to work, all personnel must check their health status. Personnel experiencing any symptoms of COVID-19 (cough, sneezing, shortness of breath, loss of sense of smell/taste, sore throat, tiredness, fever) **must not come to work.**
2. Individuals displaying symptoms of COVID-19 (described above) must remain at home and isolated until they have been confirmed COVID-free by testing or have been symptom free for the length of time recommended by the BCCDC. Personnel who have been in contact with a person confirmed or presumed to have COVID-19 must also self-isolate as per provincial health guidelines. Personnel will be referred to the BC Health Self-Assessment tool to determine if they require testing and/or medical care: <https://bc.thrive.health/>.

3. All work that can be done off campus must continue to be done off campus. Data processing, writing manuscripts, writing grant proposals, creating presentations, studying, ordering of lab supplies, online library research, computations, etc. should be done from home. Exceptions *may* be considered for cases where research personnel do not have the possibility to work from home.
4. Teaching-stream faculty and research-stream faculty who are teaching during Phase 1 / Phase 2 for whom conditions make it impossible to provide classes from home can apply to use their office for lectures; approval is decided by their head/director.
5. Teaching-stream faculty or research-stream faculty who require access to on-campus space to prepare materials for the fall (e.g., making videos for online course production) should be accommodated by the head/director where possible as long as it will be done in a safe manner consistent with physical distancing requirements.
6. On campus research during Phase 1 will be restricted to experienced research personnel. Training of new research protocols is strictly limited to situations where physically distancing can be maintained. This assessment will be up to PIs.
7. In-person group meetings, events or lectures cannot be organized in Phase 1.
8. Where exemptions have been given for a faculty member to access his or her office, they must not have guests in the office during Phase 1 or Phase 2.
9. Individual faculty members will be responsible for developing return-to-on-campus-research plans for their own research spaces. These will be reviewed and approved by department heads / directors. Heads and directors are encouraged to consult with their JOHSC.
10. Prioritization of research personnel within an individual PI's laboratory will be determined by the PI (based on the guidance in Section 5) and approved by the head or director.

Responsibility of Department Heads and Directors

- Must take the required UBC COVID-specific training course.

- Responsible for developing safety plans for their departments / buildings (in conjunction with building administrators and health & safety committees) that incorporate the guidelines in this document.
- Responsible for communicating the safety plan of the unit to faculty and research personnel.
- Responsible for ensuring that signage is in place throughout the common spaces of the building. This signage is in place to ensure physical distancing and cleaning protocols are practiced in common areas (e.g., elevators, social rooms, lunch rooms, bathrooms, stairwells), department offices (e.g., main office, mail room), and shared facilities that are under their purview
- Responsible for approving PI safety plans for their labs that ensure physical distancing and safe working practices, and for making it clear that PIs must enforce the measures taken
- Responsible for putting hand sanitizer at key points (e.g., near entrances, entrances to shared instrument facilities) for personnel, if not supplied by building operations

Responsibility of Principal Investigators (Faculty, in conjunction with senior HQP)

- Responsible for developing a laboratory safety plan for their space, and communicating this to all group members. This will be reviewed and approved by department heads or directors prior to restarting research in the lab.
- Responsible for ensuring that their trainees take the mandatory UBC COVID-specific training course, as well as taking it themselves
- Responsible for posting on the doors to their lab areas the maximum number of occupants. Where a lab is shared by multiple PIs, this maximum occupancy must be agreed upon. In the event that it is not agreed upon, then the head or director can impose a limit.
- Responsible for scheduling shifts / rotations of researchers as needed to ensure that physical distancing can be practiced and that the lab is no more than $\frac{1}{3}$ occupied (Phase 1). Where a lab is shared by multiple PIs, this schedule must be agreed upon. In the event that it is not agreed upon, then the head or director can decide the schedule.
- Trainees and staff may not have the same comfort level or ability to return to work and anyone can choose to defer their return to on-campus work, at their own discretion. Supervisors have a duty to recognize and accommodate each situation individually.
- Ensure the availability of gloves, lab coats and other necessary PPE

Responsibility of Faculty of Science

- Responsible for developing these plans for approval by VPRI office
- Work together with Departments and Institutes to develop safe working plans at each phase
- Coordinate safety plans across shared buildings
- Review and approve department / institute safety plans (ADR with subset of ROCR committee)
- Convene regular meetings of the ROCR Committee to get feedback on the research resumption and revise the Faculty safety plan in an iterative process
- Help heads and directors deal with issues of non-compliance and offer confidential reporting of non-compliance
- Address patterns of non-compliance in a manner consistent with UBC policy

** Anyone with approved research exemptions from UBC will be expected to abide by any stricter conditions imposed by their unit.

Section 4: Contextual Information

Planning Approaches

Many of the departments within Science have developed their own plans for ensuring safety of research personnel. LSI is developing a plan for the entire LSI; the plans are well aligned with those of the individual units. Through the last half of May, the ROCR Committee has been meeting and developing Faculty-wide guidance (this document) to inform departments and PIs.

Buildings

The Faculty of Science is a large Faculty (452 faculty, 535 staff, 1500 graduate students), consisting of 9 departments (botany, chemistry, computer science, EOAS, mathematics, microbiology & immunology (M&I), physics & astronomy, statistics, zoology), and 4 research institutes with faculty positions (MSL, IOF, IRES, QMI), plus a few other institutes / labs (DSI, AMPEL, ICICS). We are spread over at least 30 buildings on campus at UBC-V; the main 22 buildings for Science are as follows (other Faculties highlighted):

AERL	IOF; IRES
Auditorium Annex	Math
Biological Sciences Building	Botany; Zoology
Biodiversity Research Centre (BRC)	Botany; Zoology
Brimacombe	QMI; AMPEL; Chem; Physics; App Sci
Chemistry A-block	Chemistry; Physics; Science Co-op / advising
Chemistry B-block	Chemistry
Chemistry C-block	Chemistry
Chemistry D-block	Chemistry
Chemistry E-block	Chemistry
Computer Science (ICCS)	Computer Science; ICICS (App Sci)
EOSM	EOAS; Data Science Institute
ESB	FoS Dean's Office; EOAS; Stats; PIMS
Hennings	PHAS
I-CORD	Zoology (2 groups); Medicine
Life Sciences Centre (LSI)	M&I; Zoology; Medicine; Dentistry
Lower Mall Research Station	M&I (one group); App Sci
LSK (Leonard Klink)	Math; IAM; App Sci; UBC IT

Math
 Math Annex
 Michael Smith Laboratories

Math
 Math
 MSL, Botany, Chem, M&I, Zoology;
 Medicine; Forestry; App Sci; LSF
 MSL, Chem, M&I; Medicine

Networks of Centres of Excellence (NCE)

UBC IT, PIMS, Science Advising, Science Deans office and Science Co-op are located within our buildings. As well, there are many Science researchers scattered across the campus.

Every department has developed its own plan that agrees with the principles and guidelines of this document.

Number of Researchers Requiring Campus Access

Below is an **estimate** of the number of people that will be in a building at a time during Phase 1. Members of the ROCR Committee completed these tables with the instructions that these should correspond to no more than $\frac{1}{3}$ “normal” research occupancy in total.

		Faculty	Other Research Personnel (GS, PDFs, RAs, etc.)	Dept. / Admin Staff	Total
AERL	IOF	1	7	1	9
	IRES	3	5	0	8
AMPEL	Sci. only	0	8	0	8
Auditorium Annex		0	0	0	0
Biological Sciences Building	Botany	2	16	2	20
	Zoology	2	16	3	21
Beaty Biodiversity Centre	Botany	2	20	2	24
	Zoology	3	29	3	35
	BBM	0	0	5	5
Brimacombe (QMI)	SCI only	0	76	0	76

Chem/Phys A-block	Chemistry Physics	1 1	60 8	7 0	68 9
Chemistry B-block		1	0	4	5
Chemistry C-block		0	0	0	0
Chemistry D-block		1	37	7	45
Chemistry E-block		1	12	4	17
Computer Sci. (ICCS)	CS #s only	2	10	0	12
EOSM		6	40	3	49
ESB	EOAS #s STAT #s	5 3	56 4	0 0	61 7
Hennings		5	27	2	34
I-CORD	Zool. #s only	1	6	1	8
Life Sciences Centre	M&I	8	49	3	60
	Zoology	2	16	2	20
Lower Mall Res. Station	M&I only	2	10	0	12
LSK (Leonard Klink)	Math/IAM only	4	10	0	14
Math		0	0	0	0
Math Annex		0	0	0	0
Michael Smith Laboratories	MSL	1	61	4	66
Networks of Centres of Excellence (NCE)	MSL	1	26	0	27

Number of Existing Exemptions

Building	# of Active Exemptions
Aquatic Ecosystems Research Laboratory	1
Beaty Biodiversity Centre	8
Biological Sciences Building	19
Chemistry A Block, Chemistry Physics Building	8
Earth and Ocean Sciences - Main	3
Earth Sciences Building	1
Hebb Building	2
Hennings Building	1
Institute for Computing, Information and Cognitive Systems / Computer Science	1
Life Sciences Centre	67
Lower Mall Research Station	1
Michael Smith Laboratories	9
The Brimacombe Building	6
UBC Research Ponds	1

Section 5: Prioritization of Access

In Phase 1, research personnel, staff and faculty who do not need to be on campus to complete their work must continue to work from home. Exceptions *may* be made for those who have very difficult work-at-home situations by making an exemption request to their head or director. These decisions will be made on a case-by-case basis, depending on the situation for the individual to work from home and how important it is that he/she returns to campus at this time. Heads and directors should consider career progress, equity, and the timeliness of the proposed research in their decisions.

In terms of scheduling and prioritizing research personnel (i.e., graduate students, undergraduate students, post-docs, technicians, and other researchers) within an individual PI's laboratory, this is largely left to the PIs to justify to their respective heads / directors, with guidance from the Faculty of Science (this document, below). PIs must recognize issues of equity in allocating research time for different research personnel to continue their work. The ROCR committee had extensive discussions about the prioritization and there is no "one-size-fits-all" solution across Science, or even within individual departments, because the nature of the work is very different from site to site. Some experiments require that a student is present for 2 hours every second day, some require that a student is present for 3 full consecutive days, then can be absent for a week. Yet other experiments require that an expert on a particular instrument is present when key other students are in the lab. Furthermore, the committee did not feel it was fair to only allow senior graduate students to perform their work while delaying progress for other graduate students. Many research personnel have been unable to do any experiments for more than 2 months, and this is negatively affecting their mental health. We strongly feel that a schedule or multi-day rotation determined by the PI and approved by the head or director is the only sensible method that will be fair and equitable. Only the PI is in a situation to be able to identify the best distribution of researchers in his/her own lab. There may be needs for graduate students to complete final experiments for their PhD, for others to obtain critical data for an upcoming grant deadline, or others to obtain final results to complete a paper.

Prior to restarting research, each PI will be required to provide a form to their head or director ("Request to Restart Research") requesting permission to open their lab for research. This document must indicate the maximum number of research personnel in each lab space, name the trainees who will be in the lab, indicate prioritization of trainees in the event that we need to scale back lab operations (e.g., if there is an increase in COVID), the signage that will be posted in the lab, safety protocols that go beyond normal safety measured for the lab, cleaning protocols for equipment and high-contact points, and a plan for scheduling to ensure approx. $\frac{1}{3}$ occupancy during Phase 1. The Faculty of

Science will provide a draft template of the “Request to Restart Research” that may be used or modified for the unit. This will include the key points, but some units want to request additional information.

Prioritization for Phase 1

Here are the general principles underlying prioritization of researchers within individual PIs’ laboratories:

1. Anyone who can effectively work from home must continue to do so.
2. PIs working in shared spaces will coordinate the schedule between all users.
3. PIs should balance giving priority to time-critical work, maximizing research productivity for the group, and maintaining equitable access to ensure that all research personnel who require building access to make progress on their work have some time available during Phase 1 and Phase 2.
4. All research personnel being considered during Phase 1 must have up to date training certificates (where applicable) and not need further research-specific training. Graduate students who have not completed their practical training required so that they can work without direct supervision should not be working in the lab in Phase 1. This restriction may be loosened for Phase 2 depending on availability of on-campus training. (All returning researchers are required to take UBC COVID-specific training.)
5. Undergraduate students (as well as recent graduates who have not yet become graduate students) may be acceptable as long as they do not require any specialized training that would be unsafe. The Faculty respects the rights of units to ban all undergraduates from working in the lab for now.
6. New undergraduate students who have not completed all required training prior to the research curtailment in March are not permitted in the laboratory during Phase 1.
7. Volunteers (high school, undergraduate) will not be permitted at this time.

Below is the priority access criteria that should guide decisions for heads, directors and individual PIs about who should return to the lab.

Priority access criteria for scheduling (from most important to least important):

1. Research personnel working on COVID-related research, including work for which an exemption was already granted
2. Research personnel who are working on time-critical projects for reasons including: grant deadlines, time-sensitive papers, and students close to degree completion
3. Personnel essential to support research, personnel to support shared facilities (e.g., BIF, PCIGR, microbeam/XRD) & shops, service autoclaves, IT, shipping/receiving, etc.
4. Research personnel who play key roles in equipment maintenance
5. Equity considerations for faculty who cannot work remotely (due to environmental reasons, such as the presence of children) and have been granted a special exemption by their head or director.
6. Equity considerations for other research personnel who cannot work remotely due to environmental reasons.

Prioritization for Phase 2

We expect a similar prioritization for Phase 2. The difference between Phase 1 and Phase 2 is that building occupancy can rise from about $\frac{1}{3}$ normal to $\frac{2}{3}$ normal. We will revisit the role of undergraduate students and new graduate students for that phase.

Note that some buildings may not open for Phase 1 if there are no urgent laboratory requirements that require an on-campus presence. However, it is expected that all buildings will be open to some degree by Phase 2.

Section 6: Building / Facility Considerations

Each building that is intending to open for Phase 1 must have a safety plan to be approved by the Faculty of Science. Department heads and directors should develop these plans with their building managers. Below are the common features of these plans:

Common areas (lunchrooms, lounges, study space, admin, teaching spaces, bathrooms, elevators)

- All rooms will be sign-posted with the maximum occupancy based on area of room
- Busy or tight stairwells must be marked for ascending or descending between floors (of course this will not apply in an emergency, such as a fire)
- Elevators should only be used for heavy loads and accessibility needs
- Elevators must be limited to one person at a time, with appropriate signage, except where Facilities has posted signs allowing for 2 people
- Place tape or markings on the ground to indicate where workers should stand while lining up to enter the elevator. Ensure adequate space is provided for those exiting the elevator.
- Where kitchens or lunchrooms are open, sanitizer and wipes must be available, and a sign limiting the number of occupants at a time must be posted
- When common appliances are used (e.g., microwave, refrigerator, kettles) they must be wiped down by the user with disinfectant prior to and following use.
- Personnel must bring their own dishes
- Chairs and desks in lunchrooms / lounges / study spaces / administration areas (e.g., main office) must be arranged to allow for physical distancing
- Where possible, doors to multi-person washrooms should be propped open to minimize high touch surfaces and maximize air flow. Only one person should use the washroom at a time. Occupied/unoccupied door signage should be used.
- Main offices may be open where necessary to support research, but the # of people working should be very limited (and with physical distancing). Limit the number of people that enter the main office so that physical distancing is maintained.
- Where a feature/service leads to formation of a line-up (e.g., coffee machine in QMI, access to Chemistry Stores), markings spaced 2 m apart should be on the floor.
- Users of communal equipment (e.g., photocopier) must wipe it before and after use.
- Individuals wearing a face covering in common areas or labs need to recognize that there are concerns about storage and cleaning of masks, and that they don't replace physical distancing. UBC SRS states "Departments or units that choose to

provide non-medical masks or face coverings to UBC Members (faculty, staff or students) must inform the recipients of the risks and limitations of non-medical mask usage.” For more information, see: <https://srs.ubc.ca/2020/05/13/non-medical-masks-and-the-risks-associated-with-them/>

Points of Access to Building and Access Control

- Access to the buildings is provided using key cards and the buildings will remain locked during Phase 1
- To minimize high touch surfaces, interior doors that can be safely propped open (without violating fire codes) should be propped open

Undergraduate / Graduate Learning and Teaching Spaces

- Classrooms and meeting rooms that are bookable within units should be closed off (with tape) for Phase 1 unless there is a particular need to have them open

Anticipated Start-Up and Building/Facility Maintenance Issues Arising

- Buildings that were not open during the research curtailment should have water and other services checked before the building is occupied

Signage and Directional Guides

- Elevators (to limit occupancy to 1 or 2 people at a time, depending on elevator size)
- Stairwells that are busy or very tight (for directionality)
- Physical distancing signage must be posted at entrances and/or hallways
- Narrow hallways should be designated one-way with appropriate signage
- There should be a sign at the entrance that describes the symptoms of COVID-19 and advises all personnel to not enter if they have these symptoms. See: [WorkSafeBC](#)
- Post signage within the units to inform everyone of the measures in place

Hand Sanitizer Stations

- Hand washing/sanitizing stations will be provided inside of building entrances

- Hand sanitizers must be provided near the entrance to all shared labs/multi-user facilities (to be provided by PI or facility manager)
- Hand sanitizing stations should be provided at locations where propping the doors interferes with a building's airflow/temp stability (e.g., ChemPhys).

Offices

- Single occupancy office space is to be used only in the case of special exemptions awarded by the head or director. These are exclusively for very special situations.
- Temporary short access to offices (e.g. 10 minutes for grabbing a book) will be provided by head's approval on a case-by-case basis.
- Graduate student / trainee offices should not be used in Phase 1 except where special exemptions are awarded by the head or director.

Shared Facilities (e.g., BIF, NMR, Shops)

- Access to facilities must be controlled by the facility manager / supervisor
- Each facility must have a sign that indicates the maximum number of people that can be inside at a time
- Access to some facilities will be restricted to appointments made by email (e.g., machine shop in QMI), others will require online scheduling
- Users **MUST** comply with procedures or access/services will be denied
- All shared tools, computer keyboards, and other high-contact areas must be wiped down with disinfectant prior to and following use
- If required, visits to the workplace to deliver samples (e.g., industrial partners) should be prearranged, staggered, and safety protocols should be communicated before entry into the workplace (e.g., email and/or signage posted to entrance). Keep a record of visitors to the workplace.

Training on General Safety

- PIs will have to sign a form that they will comply with safety requirements
- People returning to UBC to work will be required to take the UBC Training Course that is being produced by the UBC Health & Safety office.

NOTE: These are the minimal requirements. Individual departments and institutes may add additional restrictions that must be adhered to by PIs. For example, specific units may close all lunch/kitchen areas and limit the number of people in specific areas of a building.

Section 7: Campus Services

Janitorial Services and Cleaning Protocols:

All of the buildings approved for research will require janitorial services, including:

- Regular cleaning of common spaces, multi-touch surfaces such as doorknobs, tables, countertops, door plates, elevator buttons, stairwell railings, and washrooms
- Custodial services should test all soap dispensers and hand sanitizer pumps to ensure they are functional.
- Replenishment of liquid soap in washrooms and hand sanitizer at entrances.

Individual departments and PIs will be responsible for additional sanitization of multi-user areas, such as wiping down shared instrumentation, light switches, high contact points, keyboards, etc.

Other campus services required:

- Compost / recycling / garbage pick-up
- ESF Waste disposal for chemical & biological waste (BRC, Botany, Chemistry, LSI, MSL, EOAS)
- Access to supplies and dry ice from Chemistry Stores (Chemistry, Botany, EOAS, MSL)
- Access to liquid nitrogen in Chemistry (Chemistry, Botany)
- Campus mail delivery (all)
- ARC and other computer services

Section 8: Safety Protocols

Below are the Faculty-wide safety protocols for Science. Many units have additional safety protocols that apply to their units that go above and beyond these Faculty-wide requirements.

Common Safety Protocols (Everyone)

1. Before coming to work, all personnel must check their health status. Personnel experiencing any symptoms of COVID-19 (cough, sneezing, shortness of breath, loss of sense of smell/taste, sore throat, tiredness, fever) **must not come to work**.
2. Individuals displaying symptoms of COVID-19 (described above) must remain at home and isolated until they have been confirmed COVID-free by testing or have been symptom free for the length of time recommended by the BCCDC. Personnel who have been in contact with a person confirmed or presumed to have COVID-19 must also self-isolate as per provincial health guidelines. Personnel will be referred to the [BC Health Self-Assessment Tool](#) to determine if they require testing and/or medical care.
3. Anyone returning from outside of Canada must follow the directions of the quarantine act, which specifies 14 days of self-isolation, regardless of whether or not they are experiencing COVID-19 symptoms. Anyone exposed to a traveler must also self-isolate for 14 days. Supervisors cannot give personnel in quarantine work that would require them to break the quarantine.
4. New researchers arriving from international destinations are required to self-quarantine for 14 days prior to beginning research. Supervisors cannot give personnel in quarantine work that would require them to break the quarantine.
5. Physical distancing is required at all times with research personnel spaced by at least 2 m. Where physical distancing is not possible, then UBC guidelines for these situations should be followed - see: [UBC Employee COVID-19 Physical Distancing Guidance](#). Examples include laser alignment and repairs to vacuum equipment that require two people. Personnel carrying out these duties together should avoid contact, wear gloves, and wear a face shield. It is recommended to wear a face mask as well.
6. Personnel must wash their hands regularly and avoid contact with one another.

7. No unnecessary visitors are permitted in the buildings during Phase 1 or Phase 2, including relatives (e.g., parents, children) or friends of faculty or research personnel. Exceptions include: couriers, industry representatives dropping off samples for analysis, other researchers on campus accessing equipment
8. Common surfaces (e.g., fridge handles, solvent containers, mice on lab computers) should be wiped regularly with disinfectant wipes. Supplies should be made available by PIs and units so that this wiping can be done by users.
9. All laptops brought on campus should be wiped down by its user with disinfectant upon arrival and at departure.
10. Follow directions in buildings for elevators, stairwells, etc.
11. Do not congregate in common areas. Minimize social interactions in the building.
12. Use of masks should be governed by BC Health guidelines (not currently required unless the particular task required them pre-COVID). Personnel who choose to wear masks must still comply with physical distancing requirements. Those who wear masks must wash and dispose of them properly. Use of other PPE, such as lab coats and eye protection, should follow [UBC 'Safety and Risk Services' \(SRS\) Guidelines](#).
13. No in-person group meetings, social events, lectures or other gatherings shall take place until further notice.
14. Non-essential business / research travel is not permitted at this time, but will be revisited in future Phases.
15. Field work will be reviewed and approved on a case-by-case basis. See the VPRI website for details. [COVID-19: Curtailing research activities on UBC campuses | UBC Research + Innovation](#)
16. Undergraduate students: Initially no summer undergraduate or co-op students who require in-person training will be permitted to work, but this may become possible in Phase 2 or Phase 3. Experienced (i.e. fully trained) undergraduate researchers may work in a lab, following physical distancing, with a mentor/supervisor. The PI must decide whether the student has sufficient experience in the lab to be mostly independent. Note that undergraduate summer students are lower priority than graduate students for on-campus research.

17. Consider installing movable plexiglass barriers on counters where personnel must interact with customers or other people.

Wet Labs

1. Occupancy of labs and shared office spaces inside of them must be restricted by PIs (as described in the “Request to Restart Research” form) so that all research personnel can work 2 m apart. Where the space is occupied by research personnel from multiple groups, the PIs must jointly coordinate this. The number of people that can work in a lab simultaneously will therefore depend on the individual lab configuration (area / geometry / bays), but units must aim for an occupancy of about $\frac{1}{3}$ for Phase 1 and $\frac{2}{3}$ for Phase 2. The maximum occupancy of each lab must be posted on the door.
2. While practicing physical distancing, it is important to ensure that research personnel are not working alone in labs where this is normally prohibited. PIs are responsible for ensuring that there is a work schedule to cover this.
3. People in common areas (e.g., group rooms, instrument rooms) must also adhere to physical distancing.
4. Where labs are divided into bays, a maximum of 1 person in a bay at any one time.

Dry Labs / Offices

1. Dry labs are labs with specialized equipment that cannot be used off campus. Occupancy of dry labs (e.g., rooms with robotics stations) must be restricted by PIs (as described in the “Request to Restart Research” form) so that all research personnel can work 2 m apart. Where the space is occupied by research personnel from multiple groups, the PIs must jointly coordinate this. The number of people that can work in a lab simultaneously will therefore depend on the individual lab configuration (area / geometry / bays), but both PIs and units must aim for an occupancy of less than $\frac{1}{3}$ for Phase 1 and $\frac{2}{3}$ for Phase 2. The maximum occupancy of each lab must be posted on the door.
2. Faculty office use is by exemption from the head / director only.

3. Student / post-doc offices will not be used in Phase 1 except where an exceptional case has been approved by the head / director. They may be used for storing personal belongings while trainees are working in the lab.
4. People in common areas must also adhere to physical distancing.
5. Temporary short access to offices (e.g. 10 minutes for picking up a book) will be provided by head or director's approval on a case-by-case basis.

Shared Facilities / Shops / Stores / etc.

1. Shared facilities must restrict the number of personnel in the facility at a time. Facility managers are responsible for developing a safe practice; this may include adding scheduling for services and access to equipment. The maximum occupancy of each lab must be posted on the door.
2. Tools must be removed from tool cabinets with gloves on and any tool removed must be wiped down before it is returned.

Administration Spaces

1. Main offices can be opened only if research needs cannot be fully supported by remote administrative workers. This decision will be made by heads / directors, and they will provide a safety plan to be approved by the ROCR and the Faculty.
2. Department heads / directors are responsible to ensure that a limited number of staff are working simultaneously in the office.
3. Consider putting up plexiglass shields to protect staff workers who have to communicate with other workers or visitors (e.g., for deliveries).

Common Spaces / Hallways / Washrooms / etc.

1. Use of common rooms (e.g., locally-assigned classrooms and meeting rooms, social spaces, lunch rooms) should be controlled carefully by departments. Remove chairs from common rooms to limit the number of people who can sit there.

2. Department-bookable classrooms should be blocked off from access for Phase 1 unless there is a need to keep them open.
3. Spaces for eating must have signage to indicate the maximum number of people permitted at a time while maintaining physical distancing
4. If microwaves or other cooking equipment are being used, there must be signage to reinforce cleaning protocols (e.g., users wiping the handles and buttons with disinfectant) and there must be supplies available there for this purpose. Units may want to prevent use of common food preparation equipment if they think it is unsafe.

Signage Required:

- Signs that state the maximum occupancy of common rooms
- Use tape to block-off rooms and classrooms that are off-limits
- Use tape and floor signage to direct traffic through high flow areas
- Signs to remind people to adhere to physical distancing guidelines
- Floor signs to mark of 2 m spaces where people might line up (if needed)
- Signed Access Agreement on lab doors indicating maximum occupancy
- Checklist of items that require wiping at the end of each shift. This should include switches, freezer / fridge handles, keyboards and mice of communal computers, cart handles, etc.

Section 9: Scheduling/calendaring, or Other Tools / Approaches to Control Access

We intend to apply similar scheduling principles for labs and research spaces in both Phase 1 and Phase 2. Each academic unit (Department/Institute) will create a plan with regard to controlling access to their units. Units are expected to adhere to UBC rules for scheduling (M-F 7:00 am – 6:00 pm or M-F 7:00 am – 12:00 noon + 3:30 pm – 8:00 pm for shifts) to ensure custodial staff can clean labs and other spaces. Any PI/lab wanting to work on a shift basis will need to make a request through their Building administrator. It may not be possible to accommodate all requests.

It is recognized that a small number of researchers have scientifically justified research protocols that require sampling/observations/data collection over an extended period of time and beyond regular working hours. The protocol for work between 8:00 pm – 7:00 am or on weekends and stat holidays will be as follows:

1. The PI must notify their department head / director and building administrator that there will be work continuing beyond the regular hours.
2. Building administrators should notify security ahead of who will be working extended hours (including time, date, location) so that they can be given access if they forget or misplace their access card.
3. The researchers will post a notice on the lab door that late-night or weekend work is underway, indicating name(s) and working hours.
4. The researchers in the lab must abide by their department or unit's working-alone policy (i.e., two-person working principle) with a safety plan to ensure that there are regular checks on researchers.
5. PIs are responsible for ensuring that their research staff are trained in appropriate cleaning protocols for their lab/research space, including cleaning high contact surfaces, benches, shared equipment, fume hood sash handles, doorknobs and other common areas within their labs on weekends.
6. Researchers must respect the custodial servicing of labs and spaces during regular working hours and be mindful on custodial staff working in other areas of the building while researchers are in their labs afterhours.

In Departments / Institutes where medium-to-high risk laboratory experiments are underway, one monitor (typically a faculty member, but may be another responsible person like a health and safety officer or department administrator) should be present each day (9:00 am - 5:00 pm) and this should be broadcast to everyone in the unit. The monitor should be available in case of an emergency or other questions, and should help to ensure that the restrictions for Phase 1 and Phase 2 are being observed.

It is the responsibility of departments to ensure scheduling (via PI lab safety plans) is performed in each building. The mode of data collection / sign-in (e.g., paper or an online document) should be available in case there is a need for contact tracing.

The detailed approaches being considered by some departments are described below:

Biological Sciences Bldg (Botany, Zoology); Biodiversity Research Centre

Sign in/sign out sheets will be posted on lab doors and everyone entering the lab will be required to sign in/out using their own pen. Hand sanitizer will also be provided at the lab entrance. The P.I. will post the weekly schedule at the lab entrance. Individual labs may also keep an on-line more dynamic schedule that will be accessible to the 'responsible person' for that wing/floor.

Chemistry Buildings (Blocks A, B, D, E)

A digital sign-in/sign-out process will be incorporated into the departmental website - all personnel will be required to sign-in and sign-out when they come on campus. Shifts will be assigned department wide by supervisors (staff and faculty); the entire department will operate on shifts that cannot be changed during Phase 1 (could change in Phase 2). Supervisors will oversee sign-in/sign-out documentation for their unit/group.

Computer Science

A master schedule will be established and posted online. PIs will be responsible for scheduling lab personnel and then provide the schedule to be updated on the master sheet. Sign in/Sign out documentation will be provided.

EOAS (ESB and EOSM)

Sign in/sign out sheets will be posted on lab doors and everyone entering the lab will be required to sign in/out. Supervisors will oversee sign-in/sign-out documentation for their unit/group. Use of a shared on-line scheduling system is encouraged.

IOF (AERL)

Sign in/sign out sheets will be posted on lab doors and everyone entering the lab will be required to sign in/out. Supervisors will oversee sign-in/sign-out documentation for their unit/group. If necessary, shifts will be assigned to operate labs and office space.

IRES (AERL)

A Google document will be used to establish the calendar of use for any **allowed** office users. In Phase 1, research personnel may only use offices where an exception has been granted by the Director.

Math (LSK, Math Annex, Math, Aud Annex)

A master schedule will be established and posted online. PIs will be responsible for scheduling lab personnel and then provide the schedule to be updated on the master sheet. Sign in/Sign out documentation will be provided.

M&I (LSI)

The number of personnel from a research group present concurrently will be determined by the head or director subject to building policy. The PI or a delegate will schedule access of lab personnel to buildings. The schedule is to be made available to the Head on request. Group personnel will log entering and leaving through logs maintained online (e.g., through phone apps or email), or using paper records.

MSL

Faculty are responsible for maintaining a schedule of on-site researchers; keeping in mind their infrastructure set up, physical distancing requirements, and the goal to only have $\frac{1}{3}$ lab/building occupancy during Phase 1. The schedule should identify the area where work will be carried out, with the established maximum density listed, making it clear when capacity is reached. Schedules must be available upon request and need to be saved for a period of one month. A shared calendar system is encouraged.

PHAS (Hennings, ChemPhys)

When necessary, PIs will schedule shifts in individual labs using Google calendar or equivalent. Occupancy and work scheduling in the basement of Chemistry Block A (ChemPhys) will be coordinated with Chemistry.

QMI/AMPEL (Brimacombe)

PIs are responsible for scheduling in their own research spaces. Shared facilities (Clean room, etc.) already use scheduling software. An online calendar tool being considered for scheduling within labs.

Statistics

A master schedule will be established and posted online. PIs will be responsible for scheduling lab personnel and then provide the schedule to be updated on the master sheet. Sign in/Sign out documentation will be provided.

Section 10: Campus Resources/Access Required

None of our units require physical access to the Library during Phase 1 or Phase 2.

Daycare is a major concern for nearly every unit

Facilities in other Faculties that our researchers need to access:

- Animal care (MSL, M&I, Zoology)
- Greenhouses (Botany, MSL, BRC)
- Various microscopy facilities
- UBC Garage to service vehicles for field work
- Building operations central shop
- Flow Cytometry Facility in LSI and Biomedical Research Centre

Essential Facilities / Resources within Science:

- Bot/Zool Shipping/Receiving
- Chemistry stores
- Chemistry liquid nitrogen
- Bioimaging Facility
- Shared Instrument Facility (Chemistry)
- Bioservices (Chemistry)
- NMR Facility (Chemistry)
- X-ray Diffraction Facility (Chemistry)
- Mass Spectrometry Facility (Chemistry)
- Shops and services (Chemistry, Physics, EOAS, QMI)
- LSI Shipping/receiving
- EOAS Stores
- PCIGR (EOAS)
- Microbeam/X-ray diffraction Facility (EOAS)

Section 11: Reporting Non-compliance

(This section relates primarily to laboratories, instrument rooms and common spaces, but may also apply to situations involving overcrowding of offices or other spaces.)

We expect all personnel to take reasonable care to protect the well-being of all employees. Implementing the safety measures outlined in this document and similar building/department/institute-specific documents is intended to keep everyone safe. Circumstances may occur where there is a perception of non-compliance, when in fact that is not the case. An example would be two work colleagues who live in the same home who are seen to be working less than two meters apart from one another. In most cases, a quick discussion with the individuals involved may help to resolve any concern.

As per Worksafe BC regulations, no member of the faculty, staff or student should be doing any activity if they believe that the activity would create an undue hazard to themselves or to others. All employees must be trained and have relevant information about hazards given to them. If a worker refuses unsafe work, the supervisor must investigate the matter and fix it if possible. If the supervisor decides that the worker's concern is not valid, report back to the worker.

If the worker still views the work as unsafe after a supervisor has said it is safe to perform a job or task, the following steps must be taken:

1. The supervisor must investigate the problem in the presence of the worker and a worker representative of the Joint Occupational Health and Safety Committee or a worker chosen by the worker's trade union. If there is no safety committee or representing trade union at the workplace, the worker who first reported the unsafe condition can choose to have another worker present at the investigation.
2. UBC Safety & Risk Services (SRS) will provide assistance and try to resolve the situation
3. UBC SRS will notify WorkSafeBC who will then investigate and take steps to find a workable solution

Supervisor Training on Roles and Responsibilities:

The process of opening up a lab to research will begin with the PI completing a "Request to Restart Research" form. This form will outline the approach that the PI will take to control access to his/her space, how they will work with PIs who share contiguous lab

space, and additional safety protocols that will be in place. Once a PI has been approved to restart research, then he or she will sign an Access Agreement and post this on the door of each lab space (a new Access Agreement may be needed for Phase 2). It will indicate the maximum occupancy for the space and a commitment to abide by the safety guidelines of the phase-in. The signed form will be posted on the lab door so that all trainees can see what the PI has agreed to and the cap for the number of people in the space. Beyond posting the document on the door, the PI must inform his/her trainees of this process.

The form will clearly inform the PI that failure to comply with the protocols may result in access permissions being withdrawn, may present a risk to the health and wellbeing of our people, and could ultimately lead to discipline.

Monitoring Compliance:

Overall compliance will be monitored by inspection of sign in logs, key card access, and periodic checks by safety staff. Units with experiments underway will designate a monitor (typically a faculty member, but may be another responsible person like a health and safety office or department administrator) for each day who is a safety contact in the event of an accident. He or she should also occasionally patrol the building (or buildings) to ensure compliance with physical distancing guidelines. It will be broadcast to the unit who is the monitor for each day so that person can be reached if there is a safety incident. The monitor will inform the PI of any infractions and, if necessary, will report them to the head or director of the unit.

Managing Non-Compliance:

When a research personnel or PI is concerned about an infraction of the rules for Phase 1 or Phase 2, they should follow the reporting guidelines below. However, they may also report infractions confidentially to the email address: accessfeedback@science.ubc.ca. This will be monitored by Mark MacLachlan, Associate Dean of Research & Graduate Studies, and complaints will be treated discreetly with heads and directors.

Below is a guide for managing non-compliance of the protocols in place for Phase 1 and Phase 2:

1. Research personnel should report any safety concerns (e.g., crowding of a space, failure to complete a necessary cleaning protocol) within a lab/research space to the Principal Investigator. Non-compliance on the part of a PI is first reported to the head or director of the Unit.

2. The Principal Investigator (or head of Unit) must investigate the situation without delay by contacting the appropriate people in the lab or other space. This could be research staff, trainees, or the PI. They may also seek advice from UBC Safety & Risk Services.
3. As part of the investigation, it may be advisable, though not always feasible, to do visual inspection of the lab/research space in question.
4. If a claim about non-compliance is substantiated, the supervisor (PI or head of unit) will consult with Human Resources, Faculty Relations, Safety & Risk Services, and other units to determine an appropriate response. The response could include:
 - Suspension of access to on-campus facilities;
 - Curtailment of the type or location of activity that can be undertaken on campus;
 - Depending on the nature and severity of the non-compliance, suspension or other employment-related discipline.
5. Resumption of activity can only occur with the agreement of the supervisor who investigated the complaint, and only when that person is satisfied that the conditions leading to the non-compliance have been resolved.

Appendix: Request to Restart Research Template form (DRAFT)

Below is the template form sent to all heads and directors for each PI to complete and submit to their head/director in order to restart research during Phase 1.

Complete this form and submit to your department head / institute director prior to restarting research. Once approved, you must complete and sign an Access Agreement and post it on each lab door.

Name: _____

Department/Institute: _____

Email: _____

Phone#: _____

1. Briefly outline proposed experiments/research that require on-campus access:

2. Building name: _____

3. For each room occupied by the PI, indicate the room number, the total number of personnel who usually work in that space, the total number of personnel who need to access the room, and the maximum number who will work in the room at once. Note that UBC is aiming for 1/3 occupancy of spaces during Phase 1, and that there must be space for physical distancing.

Room #	Total # of personnel (usual)	Total # of personnel who need access to the space	Max. # at one time during Phase 1

4. Is your lab space shared? Yes / No

If yes, indicate how you will coordinate with adjacent labs or personnel.

5. Describe how you will ensure physical distancing within your lab.

6. How will you schedule occupancy of your lab space? e.g. online sign up, weekly discussion in lab meeting to prepare a schedule together, other?. Ensure that people on the same shift are not in conflict for the same resources in their own lab. Include an example plan with the application. Schedules should be posted on the lab door weekly.

Note: at any one time, UBC is aiming for **ca. 1/3 occupancy** during Phase 1

7. Outline plans to address working alone regulations.

8. Identify high-contact points that need to be sanitized (doorknobs, fridge handles, switches, communal keyboards, etc.) and all multi-user instruments and equipment in your lab(s), their location, sanitization protocols: this includes items only used by your lab group. This should be posted as a checklist at the entrance for research personnel to complete before and after each shift.

9. Are there any tasks where physical distancing cannot be maintained? Yes / No

If yes, frequency and duration of tasks? What safety measures will be taken?

10. Is equipment in your lab space used by personnel from other labs? Yes / No

If yes, explain how you will arrange for other users to access this equipment while maintaining physical distancing. How will this equipment be sanitized between users?

11. Will you need to access equipment located in other research labs, or your lab equipment housed in shared equipment rooms in your building? Yes / No

If yes, list the equipment or room numbers and how will this be arranged? How will this equipment be sanitized between users?

12. Will you need to access equipment or services in other buildings? Yes / No

If yes, List. e.g. BiF, Chem Stores, liquid nitrogen if you aren't in Chem, collaborators

13. It is mandatory for Phase 1 that all research personnel have appropriate certified training. Are all personnel from your group accessing the lab certified?

Yes / No

Identify each of the personnel below who will require access to on-campus space:

e.g. John Smith PhD student

e.g. Harriet Tanaka Post-doc

14. Explain below how you will prioritize research personnel in your group to access lab space. In the event that we have to significantly reduce the number of people permitted in labs, how will you decide who has access to the lab?

I agree to abide by the rules I have described above during UBC's Phase 1 of research resumption. I acknowledge that failure to uphold the commitment confirmed here could result in the loss of research access privileges.

Signed: _____

Date: _____