CHEMICAL ENGINEERING 2 (CHE 291) SAFETY PLAN
IN PERSON TEACHING LABS FALL 2020

The following is a safety plan for the delivery of in-person labs for CHE 291 in Fall 2020. It is based on the hierarchy of controls model of risk management. The premise is to prioritize and implement controls that are known to be most effective (removing/eliminating exposure vs using PPE). The image in Figure 1 depicts this model using COVID-19 specific controls.

In order to maintain a safe working environment in the teaching lab, all participants in the lab (i.e. the Lab Instructor, TAs, Lab Assistant and Students) must agree to follow the protocol outline herein. Please read over this plan, then sign and return last page to Cheryl Newton (cheryl.newton@uwaterloo.ca) to confirm that its contents are fully understood. If you have any questions/concerns, please contact the lab instructor.

This document has been designed to assist principal investigators and lab directors in establishing appropriate protocols to minimize risk for work occurring during COVID-19.
CHE291 F20 TEACHING LAB COVID-19 SAFETY PLAN

Lab Instructor: Cheryl Newton and John Zhang (Matlab)

Laboratory Location: DWE 1518

1.0 ELIMINATION OF NON-CAMPUS RELATED WORK

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

<table>
<thead>
<tr>
<th>Remote work</th>
<th>Campus work</th>
</tr>
</thead>
<tbody>
<tr>
<td>All work that does not require us to physically be in the lab.</td>
<td>Training of in-lab TAs and lab assistant.</td>
</tr>
<tr>
<td>All computer based labs.</td>
<td>On-campus lab sessions, lab set-up, and lab maintenance.</td>
</tr>
<tr>
<td>Lab quizzes.</td>
<td>Livestream lab sessions.</td>
</tr>
<tr>
<td>Data Analysis and Lab report writing by students.</td>
<td></td>
</tr>
<tr>
<td>Answering questions and meetings with students will be done by email or video chat.</td>
<td></td>
</tr>
</tbody>
</table>

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

2.0 WORKER TRAINING

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

- Mandatory “Return to Campus Safety during COVID-19” (SO 2036) online training
  - TAs send copy of course completion to lab instructor
  - Students submit course completion acknowledgement on UW LEARN
- Training from the Lab Instructor on the new practices outlined in this procedure
  - TAs send signature at end of procedure
  - Students submit acknowledgment on UW LEARN
3.0 RESPONSIBILITIES

3.1 SUPERVISOR
Supervisors shall:

- Develop this plan to meet Workplace Health & Safety Guidelines for COVID-19 and create quiz in ChE 291 UW-Learn course for students to confirm that they have read and understood the COVID19 safety protocol for in-person labs.
- Meet with TA/lab assistant prior to allowing them access to the lab. Orientation shall cover all items within this plan.
- Enforce all criteria within this plan and reiterate reporting requirements to TAs during training.
- Ensure appropriate hand hygiene and surface disinfection supplies are provided for workers.
- Physically visit and inspect the laboratory each lab session:
  - to identify hazards as per the Occupational Health and Safety Act; and,
  - to ensure the adequacy and adherence to this workplan.
  - to ensure that a record of attendance is kept for each lab session.

3.2 WORKERS AND STUDENTS
Workers shall:

- **Work from home** for all tasks that do not need laboratory access.
- Review and sign declaration that all COVID19-safety training materials are understood and will be followed during lab days and that you are feeling healthy enough to attend campus and are not required to isolate/quarantine due to recent high risk of exposure (TA/lab assistant sign copy of this plan. Students complete safety quiz in ChE 291 UW-Learn course).
- Complete self-assessment on day of lab prior to arriving to lab building. **Do not come on campus if feeling ill.**
- Enter DWE building within 5 minutes of assigned lab time. Wait in hallway by entry door for instructor/TA to bring you into lab. Line-up so that hall traffic can continue to pass with safe distancing. Keep 6 ft (2m) apart from each other and 6 ft from any doorways (follow wall/floor markings).
- Leave personal items not needed for lab in hall locker or other secure location. **NOTE:** Hall locker rental is administered by Mary Bland of EngSoc m bland@uwaterloo.ca; refer to email dated September 1.
- Notify the lab instructor if supplies are not sufficient to maintain hand hygiene and surface decontamination requirements
- Notify the supervisor of any hazards that are discovered while working
- Leave building immediately after lab session.
- Report any flu-like illness experienced within 14 days after attending a lab session to the lab instructor using the process outlined in Section 4.2.2.

### 4.0 HEALTH PROTOCOLS

#### 4.1 SELF-ASSESSMENT SCREENING

**To minimize risk, employees and students must not come to campus when ill.** For this reason, the University requires that employees and students monitor themselves daily for symptoms of COVID-19. The COVID-19 self-assessment tool, found in the [WatSAFE app](#) and on the [University’s Health site](#) provides clear directions on how to self-assess. Signage posted at building entrances will remind employees and students to conduct self-assessments.

#### 4.2 ILLNESS AND ABSENCE REPORTING

##### 4.2.1 EMPLOYEE COVID-19 REPORTING

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

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

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

When reporting the absence please include:

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

Occupational Health will communicate with the individual, as well as the departmental or administrative head, to provide guidance about maintaining good health practices in the workplace.
Normal sick leave procedures captured within the University of Waterloo Disability Management Guide will be followed. Medical documentation will be required after the fifth workday absent.

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

4.2.2 STUDENT COVID-19 REPORTING

- Attendance at in-person lab sessions are optional. All lab material can be completed remotely. Students who are experiencing influenza-like symptoms, live in close contact with someone who tests positive for COVID-19, or have travelled outside of Canada in the last 14 days must not come to campus.
- Please contact the lab instructor for accommodation if you are completing a 14-day quarantine or a required self-isolation.
- In the event of absence due to influenza-like illness or required self-isolation, students shall submit an Illness Self-declaration. Students can find the Illness Self-declaration form in the Personal Information section of Quest. A doctor’s note for accommodation is not required.
- If a student becomes ill in a lab session (reports or displays symptoms):
  - Ask the student to proceed directly home to self-isolate and contact their health care provider or a COVID-19 Assessment and Testing Centre directly. Students are asked to report symptoms or positive test for COVID-19 to Health Services.

5.0 ADJUST THE WORKPLACE - PHYSICAL DISTANCING

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

- Occupancy limits and traffic-flow
- Scheduling work

5.1 OCCUPANCY LIMITS AND TRAFFIC FLOW

- There is no in-person computer labs or computer lab access (DWE 2529) for the Fall 2020 term. Similarly, the lab instructor/TA are not permitted to host students in their offices. All computer-based tutorials will be hosted virtually.
- The maximum lab occupancy for DWE 1518 is 15 and for the adjacent lab preparation space DWE 1516 is 2. Occupancy during a lab session is 2 instructors, 2 teaching assistants, 1 lab assistant and up to 8 students (13 total).
- Entrance to DWE 1518: N door (see posted signage).
- Exit from DWE 1518: S door (see posted signage).
- To prepare for lab, students should watch demonstration videos available in LEARN content folders for Labs 1 and 3 prior to attending the lab session.
• Students will be admitted to lab at staggered times to avoid line-ups in hallway outside lab entrance and to allow TA to provide instruction to each student in timely manner with minimal cross traffic. Attendance of anyone entering the lab will be noted. Please report to lab entrance at your designated entry time. Attendees will be screened at the entrance. Students should enter building no sooner than 5 minutes prior to designated entry time. If early, students should wait along E side of DWE B-wing hallway from N doors heading southward. Line-up close to wall so that hall traffic can continue to pass with safe distancing. Maintain 6 ft (2m) apart from each other and 6 ft from any doorways. Follow markings on floor/wall.

• Remember to bring a face covering to wear inside building common spaces and teaching labs (https://uwaterloo.ca/coronavirus/return-campus/masks-or-other-face-coverings-are-required-campus). Also bring your own lab coat and goggles for lab. These items cannot be shared.

**NOTE: Personal belongings like knapsacks are not permitted to be stored in the lab space. Do not bring extra items on campus/arrange with Engsoc to use a hallway locker in DWE (refer to Sept. 1 email from Cheryl Newton or check info on ChE291 LEARN content).**

• Within lab, obey one-way traffic flow directions indicated on map below. Each student will be designated their own individual workstation. Two workstation/aisle as shown in maps below to avoid cross traffic in lab. Enter lab and head up aisle towards your assigned workstation. Students can enter/exit their aisle from their aisle ends as long as they maintain 2-m distance from other students on bench across middle sink and at shared equipment locations. After exiting your aisle closest to your station, follow the directional flow on the map below to avoid cross traffic in the lab. If working in an aisle with 2 workstations, avoid walking past worker at other station.

• During lab session, wear cloth mask and work within your assigned workspace. Maintain 6ft (2-m) distancing from others including TA/lab assistant/instructor at all times. If a member of the teaching team needs to demonstrate students must maintain 6 ft distance during the demonstration.

• Disinfection of work stations will be completed at the beginning and end of the lab session and supplies provided if students choose to disinfect between using shared equipment.

• Figure 2 provides the lab diagram indicating traffic flow for Lab 1 and Lab 3. Lab 1 and Lab 3 will run on the same day and time slot in DWE 1518.
Figure 2: DWE 1518 diagram outlining occupancies and traffic flow.

Legend

- Red arrows (→) indicate the suggested one-way flow pattern; ( ) work location aisle exit
- Orange squares (□) indicate individual work location for Lab 3, all work stations are 6 feet apart
- Circles with OL (OL-) indicate an occupancy limit for the room.
- Green rectangles (□) denote shared equipment locations with number of users shown
- Hand hygiene station
- Red squares (□) indicate individual work location for Lab 1, all work stations are 6 feet apart
- Note location of shared equipment (green boxes on lab diagram):

- **For Viscometer Lab 1: Brookfield Viscometer (see Table 1)** will be the only shared equipment. Beakers and spindles can be wiped down after each person’s usage with 70% ethanol or other disinfecting spray/wipe. The touchscreen on the Viscometer has disposable plastic wrap and may be replaced after each person’s usage. As well, student wear gloves the entire time operating the equipment and disposers of them after use. The stylus used to operate the touchscreen will be wiped down with 70% ethanol or other disinfecting spray/wipe after each person’s usage.

- **For VLE ebulliometer Lab 3: The ebulliometer apparatus and Gas Chromatograph (see Table 2)** will be shared between 2 students. Common contact points for the GC are the computer keyboard and start button on GC. The computer keyboard will be covered with a disposable plastic wrap and replaced after each person’s usage. As well, student wear gloves the entire time operating the equipment and disposers of them after use. The ebulliometer control panel will be covered with disposable plastic wrap and replaced after each person’s usage. Each student will have a designated set of glassware, microsyringe for GC and sample vials they will use during the lab session.

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**Table 1 – CHE 291 Viscometer Lab 1 Shared Equipment**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Notation on Figure</th>
<th>Shared (Yes/No)</th>
<th>Frequently Used (Yes/No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscometer and spindles workstation</td>
<td>V1, V2</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Testing Solutions in Beakers</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sink</td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Waste Container</td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Table 2 – CHE 291 VLE Lab 3 Shared Equipment**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Notation on Figure</th>
<th>Shared (Yes/No)</th>
<th>Frequently Used (Yes/No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ebulliometer workstation</td>
<td>EB1, EB2</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Solvent Bottles in fumehood</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Fumehood</td>
<td>FH1, FH2</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Waste Container in fumehood</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Gas Chromatograph (GC), microsyringe, and computer workstation</td>
<td>GC1,GC2</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
• If feeling overwhelmed from wearing a mask during the lab session, exit the lab and either head outside DWE building at S or N doors or go into DWE 1519 or 1520 across the hall (depending on availability) designated for mask-free breaks. Note: only 1 person permitted per mask-free room at any given time.

5.2 WORK SCHEDULES

The lab schedule for CHE 291 will be Monday and Friday mornings every week as listed in Table 3.

Table 3 – Chemical Engineering Teaching labs schedule Fall 2020

<table>
<thead>
<tr>
<th>Course</th>
<th>Schedule</th>
<th>Location</th>
<th>Teaching Assistants</th>
<th>Student enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 290 Chemical Engineering Laboratory 1</td>
<td>Tuesday 9:30 – 12:30, Wednesday 1:30 – 4:30</td>
<td>DWE 1518</td>
<td>2</td>
<td>70</td>
</tr>
<tr>
<td>CHE 291 Chemical Engineering Laboratory 2</td>
<td>Monday 8:30 – 11:30, Friday 8:30 – 11:30</td>
<td>DWE 1518</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>CHE 490 Chemical Engineering Laboratory 4</td>
<td>Tuesday 1:30 – 4:30, Thursday 1:30 – 4:30</td>
<td>DWE 2526; 1513; 1514; 1519; 1520</td>
<td>3</td>
<td>60</td>
</tr>
</tbody>
</table>

• Courses have designated times in the lab space as shown in table above. Prep and set-up for labs must be performed outside of scheduled lab times and between 8 am - 6 pm. Prep schedule will be coordinated between lab instructors.
• ChE291 is scheduled in the same lab space as ChE290. ChE490 uses rooms across the hall. To maintain physical distancing in hallways and allow time for thorough disinfection of room, ChE lab schedules do not overlap. Course schedules will be posted in LEARN Content/on cork board outside lab.
• CHE 291 experiments 2, 4, 5 and 6 will be administered remotely through livestreaming and asynchronous content.
• For livestreamed lab 2 only the lab instructor, teaching assistant, and lab assistant will be present. A safety plan for the livestream session’s layout will be submitted later.
• For in-person labs each student will begin at their assigned individual workstation at a designated start time. When moving around lab from workstations to shared equipment locations maintain distance from other lab occupants.
• Office work will be done at home.
• Meetings with students/TAs should be held virtually.
• Students complete all lab report writing work at home.
• Instructor/Co-op Lab Assistant/TA should follow Working Alone Guidelines, if applicable

5.3 OTHER CONSIDERATIONS FOR PHYSICAL DISTANCING

• Entrance and Exit Only signs for N and S doors, respectively. One-way traffic at windows and blackboard sides of lab.
• Occupancy limit of 15 will be posted at lab entrance and exit.
• 3 Protect Yourself and Others signs (1 for room notice board, 1 for DWE 1516 and 1 on hallway wall next to line-up zone) to reinforce safe distancing and remind waiting students to remain close to wall to allow hallway traffic to pass.
• Stop Before Entering sign posted at entrances to DWE 1516 and DWE 1518.
• Covid hand hygiene procedures will be posted at all sinks (6 sinks at bench ends in lab + sink in DWE 1516)
• 1 Please Stand Here sign on floor outside lab entrance.
• Extra stools will be removed from lab (only 15 can remain in DWE 1518, max 2/aisle). ~20 extra stools will need to be stored in prep room DWE 1516/heavy lab storage space DWE 1521 or out-of-reach inside DWE 1518.
• Hand hygiene stations (i.e. sinks) are available at end of each bench. 70% ethanol solution will also be available to sanitize hands.
• Anyone who appears to fall ill during a lab session, will be asked to leave and seek medical attention at Campus Health facility. If later diagnosed as being positive for Covid-19, you must inform lab instructor as soon as possible.
• Students will be required to confirm they have read and understood this document and must declare that they are not feeling ill prior to entering the lab.

6.0 SURFACE DECONTAMINATION
Surface decontamination within the laboratory is the responsibility of the Lab Instructor. At minimum most surfaces should be disinfected twice per day.

All students can disinfect and wipe down all shared work stations before and after use. This includes lab bench, anything touched, and lab seat. Contact time for disinfectant is 2 min and it may need to be sprayed again if it begins evaporating.

6.1 WORK SURFACE AND EQUIPMENT DECONTAMINATION
Complete the table below regarding disinfection details for the shared equipment within the laboratory:
Table 4: Shared equipment disinfection details.

<table>
<thead>
<tr>
<th>Equipment Identifier</th>
<th>Disinfectant</th>
<th>Concentration</th>
<th>Contact time</th>
<th>Frequency of disinfection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fumehoods</td>
<td>Molloys 75 % alcohol</td>
<td>As received</td>
<td>2 min</td>
<td>Before and after lab session</td>
</tr>
<tr>
<td>Lab Benches</td>
<td>Molloys 75 % alcohol</td>
<td>As received</td>
<td>2 min</td>
<td>Before and after lab session</td>
</tr>
<tr>
<td>GC workspace and computer</td>
<td>Molloys 75 % alcohol, alcohol cleaning towelette, or Certainty disinfectant wipes</td>
<td>As received</td>
<td>2 min</td>
<td>Before and after lab session</td>
</tr>
<tr>
<td>Ebulliometer and workspace</td>
<td>Molloys 75 % alcohol, alcohol cleaning towelette, or Certainty disinfectant wipes</td>
<td>As received</td>
<td>2 min</td>
<td>Before and after lab session</td>
</tr>
<tr>
<td>Viscometer and workspace</td>
<td>Molloys 75 % alcohol</td>
<td>As received</td>
<td>2 min</td>
<td>Before and after lab session</td>
</tr>
<tr>
<td>Waste Containers</td>
<td>Molloys 75 % alcohol</td>
<td>As received</td>
<td>2 min</td>
<td>Before and after lab session</td>
</tr>
<tr>
<td>Sink area</td>
<td>Molloys 75 % alcohol</td>
<td>As received</td>
<td>2 min</td>
<td>Before and after lab session</td>
</tr>
</tbody>
</table>

Notes on surface disinfection:

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

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

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

6.2 HIGH TOUCH AREA DECONTAMINATION

All high-touch surfaces should be disinfected twice daily. Designate responsible persons and a schedule for this to be done. Complete the table below for your research areas:
**Table 5: High touch surface disinfection summary table.**

<table>
<thead>
<tr>
<th>Item Identifier</th>
<th>Disinfectant</th>
<th>Responsible Person</th>
<th>Schedule</th>
<th>Frequency of disinfection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doorknobs, push bars, handles</td>
<td>Molloys 75 % alcohol</td>
<td>Lab Instructor</td>
<td>Twice daily</td>
<td>Monday and Friday</td>
</tr>
<tr>
<td>Cupboard knobs and handles</td>
<td>Molloys 75 % alcohol</td>
<td>Lab Instructor</td>
<td>Twice daily</td>
<td>Monday and Friday</td>
</tr>
<tr>
<td>Faucets and tap handles</td>
<td>Molloys 75 % alcohol</td>
<td>Lab Instructor</td>
<td>Twice daily</td>
<td>Monday and Friday</td>
</tr>
<tr>
<td>Lab phone</td>
<td>Molloys 75 % alcohol</td>
<td>Lab Instructor</td>
<td>Twice daily</td>
<td>Monday and Friday</td>
</tr>
<tr>
<td>Light switches</td>
<td>Molloys 75 % alcohol</td>
<td>Lab Instructor</td>
<td>Twice daily</td>
<td>Monday and Friday</td>
</tr>
<tr>
<td>Keyboards and mice</td>
<td>Individual Alcohol Cleaning Towelettes</td>
<td>Lab Instructor</td>
<td>Twice daily</td>
<td>Monday and Friday</td>
</tr>
</tbody>
</table>

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


**7.0 HAND HYGIENE**

Hand hygiene should be performed regularly throughout the day. At minimum, employees and students shall wash hands or perform hand sanitization:

- When entering or leaving a new space
- When they remove gloves
- After using shared equipment (if wearing gloves when using shared equipment, remove and dispose. Replace with fresh pair, if needed.)

Hand washing is the preferred method of hand hygiene at UW. If hands are soiled (dirt, debris, oils, grease, and other contaminants), hand sanitizers will not be effective. Use soap and warm water in these cases. If work consistently causes hands to be soiled, hand washing facilities need to be provided and accessible (sink and soap).

Teaching assistants will be trained and signage about hand hygiene will be posted at each sink. TAs will be instructed to have all students wash their hands upon entering the lab and then proceed to their station.
8.0 GROUP PROTECTIVE EQUIPMENT

If physical distancing is practiced, additional PPE is not typically required. However, as per University guidelines, all attendees must wear face coverings (e.g. cloth or surgical masks) when inside university buildings.

Details on other general protective equipment are below:

- Students and TAs should bring their own safety goggles, lab coat and cloth mask to the lab session. Please wear mask once you enter the building and when waiting in hallway to access lab. Don lab coat and goggles prior to entering lab space. Spare lab coats/goggles will not be available in the labs as these items cannot be shared.
- Face shields will be provided to TA/lab assistant as needed. They must be wiped with a disinfectant before and after each use.
- Forehead temperature may be measured using a non-contact IR temperature scanner prior to entering the lab space. Anyone with a temperature above 38°C or 100.4°F or who appears to be severely ill will not be permitted to enter the lab. If you are experiencing a fever, please stay home and send an email to inform lab instructor that you are opting to complete the online version of lab instead. Contact your group mate to arrange to view experimental procedure virtually using MSTeams, Zoom or other video chat app.

Where there is no human contact, gloves are not required to protect against COVID-19 (i.e. study participant). Hand hygiene is more effective than use of gloves for protection against COVID19. HOWEVER, lab gloves are required when working with chemicals in the lab. Nitrile Gloves are provided in the lab. Gloves shall not be used in hallways (this rule has not changed). Sinks are available near exits. Hand sanitizer will be available in the lab at sinks and near shared equipment/lab computers that are common high contact points.

9.0 SHUTDOWN PLAN

A printed copy of the Laboratory Ramp-Down & Temporary Shutdown Checklist related to CHE 291 / DWE 1518 is available in Cheryl Newton’s office and Cheryl is responsible for implementing it.

10.0 WASTE DISPOSAL

1. Non-hazardous waste will be removed from labs by custodial services as per the schedule used before COVID-19.
2. Hazardous waste should be handled and removed according to the hazardous waste guidelines.

Note: Due to COVID-19 and physical restrictions in the Environmental Safety Facility (ESF), open hours no longer exist. Waste must now be scheduled using the online calendar. Information on this calendar can be found here.

11.0 ACKNOWLEDGEMENTS

Employee and student acknowledgements

By printing and signing my name in the table below, I acknowledge that I have been trained on the procedures outlined in this document, that I have been consulted and have no reservations with the safety precautions and processes that will be in place to conduct research described in the request to be in on campus.

<table>
<thead>
<tr>
<th>Worker Name</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheryl Newton</td>
<td></td>
<td></td>
</tr>
<tr>
<td>John Zhang (Matlab instructor for CHE 291)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melika Keymanesh (TA for Lab 1 Viscometer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muhammad Waqas Iqbal (TA for Lab 3 Vapour Liquid)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raymond Lin – co-op lab assistant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Principal Investigator Acknowledgement:
I acknowledge that I am responsible for the implementation of all procedures outlined in this document to reduce infection risk of COVID-19. Those found not following these directives may be subject to corrective action up to and including disciplinary measures.

Principal Investigator Name: Cheryl Newton

Principal Investigator Signature: __________________________ Date: __________

Principal Investigator Name: John Zhang

Principal Investigator Signature: __________________________ Date: __________