KPU | KWANTLEN POLYTECHNIC UNIVERSITY

Program/Course Health & Safety Form

Date: 8/5/2020	**Campus:** Richmond
Faculty: Science & Horticulture	**Program**: B.Sc. in Physics for Modern Technology – PHYS 2610 R10
Date of first group of students on campus: 2/3/2021	**Date of first group of students to leave campus:** 3/24/2021
Date of second group of students on campus (if needed): Only if class enrollment exceeds 8. 2/10/2021	**Date of second group of students to leave campus (if needed):** 3/31/2021
Number of students anticipated on campus and on which days: 10 students per group, 6 hours per day in the Physics lab – R3290 Group R10A: 12pm – 3pm and 4-7pm Feb 3, 24, Mar 10, 24. Group R10B (if needed): 12pm – 3pm and 4-7pm Feb 10, Mar 3, 17, 31. Note, enrollment in PHYS 2610 is capped at 20 students but has never exceeded 8 students, so it is highly unlikely that the second group will be needed.	**Number of employees on campus to support this program and on which days:** One instructor and one lab technician on each day. **Instructor Name:** Michael Poon

Rationale for why students need to be on campus:

KPU's Physics for Modern Technology (PMT) degree has been marketed as a unique physics degree in Canada that incorporates practical applications and technical skills. It is essential that PMT students be allowed on-campus to complete their training in some of these applications of modern technology.

The learning objectives of PHYS2610 Sensors and Actuators includes the testing and calibration of sensors and actuators, as well as interfacing sensors/actuators with microcontrollers or data interface modules. Proficiency of these skills and techniques are necessary for success in the third and fourth year PMT projects. To satisfy these learning outcomes, students will need to complete the following three labs:

1) Characterizing and calibrating sensing elements (6 hrs – two lab sessions)
2) Performance of active sensors with signal conditioning elements (6 hrs – two lab sessions)
3) Interfacing sensors and actuators (12 hrs – 4 lab sessions)

Note, for some students, this may be their first in-person second-year lab, so extra time has been allotted for students to complete the labs successfully.

These labs require students to physically set-up, connect, test and trouble-shoot their sensors/actuators with physical variables, such as temperature, displacement and force. The limited number of apparatus and value of the experimental equipment – industrial-grade sensors and actuators, power supplies, function generators, etc. – do not support the option of lending equipment for the students to perform the experiments at home.

Have you informed the Registrar of the scheduling requirements for this course? Yes/no and when informed?
The scheduling office will be notified on August 21st.

PPE requirements for students, faculty, and staff (quantity needed).

All students, faculty and staff will be required to have face masks on-hand to be used as necessary if physical distancing cannot be maintained. All individuals are encouraged to use their own face masks. Face masks will be provided to individuals who do not have one.

Students – 20 students* x 4 sessions = 80 face masks
Instructor: 1 instructor x 8 sessions* = 8 face masks
Lab technician: 1 lab technician x 8 sessions* = 8 face masks

Total: 96 face masks

*assuming 20 students split into two groups.

Has there been consultation with the Faculty OH&S Committee or the instructor? (provide details).
Yes, the instructor has been consulted.

KPU | KWANTLEN POLYTECHNIC UNIVERSITY

Students must conduct Covid-19 self-assessment prior to arriving on campus and attending class.

Safety Plan for Employees and students:

Students

- Wash and/or sanitize your hands before or upon entering the lab.
- The lab doors will be propped open to eliminate the need to touch door handles.
- Follow the direction arrows and instructions to arrive and depart from your numbered lab bench.
- For labs held on consecutive days, you will sit at the same lab bench and use the same equipment – no one else will have access to your lab bench or equipment during these days.
- All equipment will have been quarantined for a minimum of 72 hours prior to your first use.
- Maintain a physical distance of 2m at all times – if physical distancing cannot be maintained and there are no protective barriers, you are required to wear a face mask.
- You are encouraged to bring your own face mask, but if you do not have a face mask, one will be provided to you.
- Notify the instructor if you are leaving your lab bench (to use the washroom, or because you have completed the lab) prior to the end of the scheduled class.
- Do not touch your face, nose and/or eyes.

Instructor and Lab Technicians

- Wash and/or sanitize your hands before or upon entering the lab.
- Maintain a physical distance of 2m at all times – if physical distancing cannot be maintained, you are required to wear a face mask.
- Wash and/or sanitize your hands before and after handling any of the student's equipment or materials.
- Do not touch your face, nose and/or eyes.

Have you consulted with Dr. David Florkowski, AVPA before submitting this request?
Yes, Dr. Florkowski toured the site on August 26, 2020.

Submitted by: Dr. Elizabeth Worobec, Dean, Faculty of Science and Horticulture

Approved by Provost and VPA: Dr. Sandy Vanderburgh	**Signature:** **Date:**
Approved by the Office of Health & Safety **Name:** Pablo Dobud	**Signature:** Pablo Dobud Digitally signed by Pablo Dobud DN: cn=Pablo Dobud, o=Kwantlen Polytechnic University, ou=Human Resources, email=Pablo.Dobud@kpu.ca, c=CA Date: 2020.10.06 19:29:02 -07'00' **Date:**

Insert sketch(es) of classroom arrangement and "flow of students" here.

Students will enter the lab, R3290, via the hallway door. This door will be propped open at least 15minutes prior to the start of class to allow students to enter the lab directly without queuing in the hallway.

Students will be assigned to numbered lab benches based on order of arrival, 1 – 10, and will use the same bench throughout the day. Students will be dismissed from the room in reverse order, 10 – 1.

Tables will be clustered into groups of two with pairs of students (1-2, 3-5, 4-6, 7-8, 9-10) facing each other to allow students to "collaborate" on the labs, with each pair of students having their own identical equipment (see Figure 1). Tables must be located near the electrical drop cords. Note, given the depth of the tables, student pairs will have sufficient physical separation.

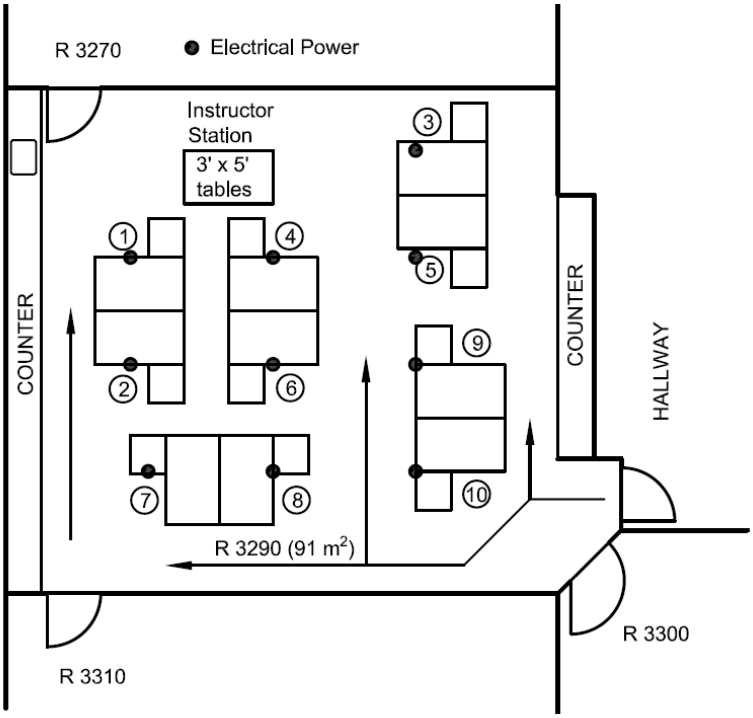

Figure 1 – Tables clustered in groups of two.

If the enrolment has an odd number of students, a cluster of three tables will be assembled to provide a collaboration space for three students (see Figure 2). Again, with a group of three, each student will have their own set of equipment and materials.

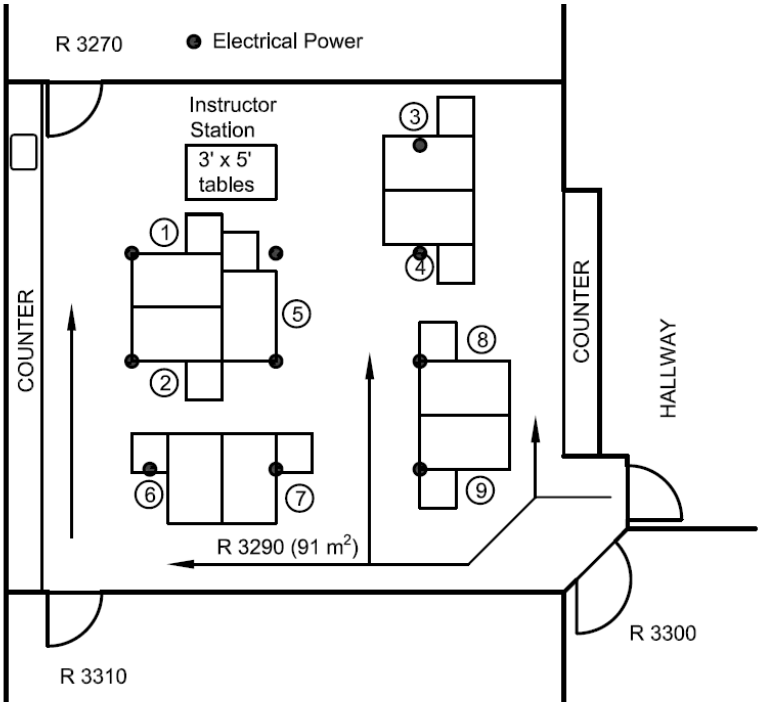

Figure 2 – Table arrangement showing one cluster of three tables, student group 1-2-5.

Insert sketch(es) of classroom arrangement and "flow of students" here.

Students will enter the lab, R3290, via the hallway door. This door will be propped open at least 15minutes prior to the start of class to allow students to enter the lab directly without queuing in the hallway.

Labs fall on consecutive days (Tuesday/Wednesday). On Tuesdays, students will sit at the numbered lab benches based on order of arrival, 1 – 8. On Wednesdays, students will be asked to try to arrive in the same order as Tuesday's session and will be required to sit at the same numbered bench. Students will be dismissed from the room in reverse order, 8 – 1.

Tables with 24" high plexiglass barriers will be located between stations 1-5, 2-6, 3-7 and 4-8 to allow students to "collaborate" on the labs (each pair of students will have their own identical equipment).

KPU | KWANTLEN POLYTECHNIC UNIVERSITY

COVID 19-Classroom/Shop/Laboratory Safety Plan Checklist

Department: Physics

Campus: Richmond

Completed by: Elizabeth Worobec

Date: August 26, 2020

Overview

- The following checklist must be completed for spaces being used for face to face activities/instruction.
- The intent is to ensure that minimum requirements are being considered to maintain safe spaces for employees and students in our classrooms, shops and laboratories.
- This checklist is by no means exhaustive and there may be other measures unique to your spaces that may need to be considered in developing your classroom/shop/laboratory safety plan.
- The requirements identified are consistent with the current guidelines provided by the Provincial Health Officer, BC Center for Disease Control and WorkSafe BC.

When completing this checklist describe the implementation details for each item indicated as "yes".

---

1. Orientation, information and training on the Department's Covid-19 Safety plan has been provided to employees and students?
   Yes ☑ Not Applicable ☐

2. Handwashing posters posted in all washrooms?
   Yes ☑ Not Applicable ☐

3. Students/employees are reminded to practice good hygiene during class and to wash hands immediately before and after class?

Yes ☑ Not Applicable ☐

4. Nearest handwashing sink located, is stocked and has been identified to students?

Yes ☑ Not Applicable ☐

5. Students have been advised that no eating/drinking is permitted during classes in classroom/shop/lab?

Yes ☑ Not Applicable ☐

6. Physical distancing posters posted in classrooms/shops/labs and throughout the common areas?

Yes ☑ Not Applicable ☐

7. The maximum number of persons allowed in a space has been determined in order to maintain 2-meter physical distancing?

Yes ☑ Not Applicable ☐

8. Occupancy limit signage posted on door?

Yes ☑ Not Applicable ☐

9. Directional arrows to support flow of people throughout the teaching space are in place? Provide a floor plan with your plan indicating direction of flow of people, location of workstations, entry and exit points.

Yes ☑ Not Applicable ☐

10. If applicable, Facilities has been notified of additional cleaning needs for building/classrooms/shop/lab?

Yes ☑ Not Applicable ☐

11. If applicable, Facilities has been notified of additional signage required for the classroom/shop/lab?

Yes ☑ Not Applicable ☐

12. Students have been provided instruction on where to spend their break time? (No social gatherings, leave the building, in their cars)

Yes ☑ Not Applicable ☐

13. Classroom/shop/lab set up to allow for 2 meters physical distancing between all occupants?

Yes ☑ Not Applicable ☐

14. Demonstration and work areas set-up to allow for 2 meters physical distancing?

Yes ☑ Not Applicable ☐

15. If physical distancing or other measures are not practical installation of barriers or sneeze guards has been considered?

Yes ☑ Not Applicable ☐

16. Handouts, papers, pens, etc. are not physically provided to students? (Use e-versions, students provide their own, etc.)

Yes ☑ Not Applicable ☐

17. When possible, students should have their own dedicated tools/equipment? (Items are not shared between students during class).

Yes ☑ Not Applicable ☐

18. Common touch points and tools/equipment that must be shared are identified?

Yes ☑ Not Applicable ☐

19. Cleaning and disinfecting program in place for cleaning/sanitizing shared tools/equipment and touch points?

Yes ☑ Not Applicable ☐

20. Students and employees are given instruction for the safe and correct use of any cleaning/sanitizing materials?

Yes ☑ Not Applicable ☐

21. Safety Data Sheets available for cleaning/disinfecting supplies?

Yes ☑ Not Applicable ☐

22. Students/employees are given instruction for the safe and correct use of any provided personal protective equipment (PPE)? Instruct students/employees on how to safely use, remove, and dispose/clean (as applicable) any required PPE for the class. **Please note in regards to Covid-19, PPE should only be considered when physical distancing and other measures are not practical to implement**.

Yes ☑ Not Applicable ☐

23. First Aid protocol has been reviewed with students and employees? Students in need of first aid to notify instructor and instructor to call First Aid Attendant. Follow directions of First Aid Attendant.

Yes ☑ Not Applicable ☐

24. A process has been developed to deal with employees not following the control measures?

Yes ☑ Not Applicable ☐

25. A process has been developed to deal with students not following the established control measures?

Yes ☑ Not Applicable ☐

26. A process is in place to advise employees to stay home if sick, and how to report COVID-19 like symptoms? (Supporting measures should also be in place to accommodate absences and provide coverage, if applicable)

Yes ☑ Not Applicable ☐

27. A process is in place to advise students to stay home if sick and how to report COVID-19 like symptoms? (Supporting measures should also be in place to accommodate absences?)

Yes ☑ Not Applicable ☐

28. Students are advised to self-monitor and notify instructor if not feeling well?

Yes ☑ Not Applicable ☐

29. Employees are encouraged to self-monitor and to notify supervisor if not feeling well?

Yes ☑ Not Applicable ☐