

BCIT



Department of Civil Engineering Laboratory Safety Policy

Version 5.0 July 2018

The “Department of Civil Engineering Safety Policy, V5.0, July 2018” shall come into effect
_____ (Date)

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1.0 Introduction

The British Columbia Institute of Technology Department of Civil Engineering has prepared this Safety Document to ensure safe practices in laboratories. The health and safety policy of the Department is to take every reasonable precaution to protect the health and safety of faculty, staff, and students.

Mandatory safety standards, as interpreted by the requirements and policies stated in this document and its supplements apply to faculty, staff, researchers, and students engaged in laboratory operations utilizing laboratory materials and in performing common laboratory procedures. This information is intended to help those working in the laboratories to minimize hazards to themselves and their colleagues.

2.0 BCIT Department of Civil Engineering Laboratories

This policy applies to activities in the following laboratories:

- SW3-1650 Materials Lab
- SW3-1690 Clean Soils Lab
- SW3-1655 Hydraulics Lab
- SW3-1695 Environmental Lab
- SW1 – 1068/1070 Structures Lab

Hereafter, these laboratories will collectively be referred to as the 'Civil Labs'.

For the 2017-2018 Academic Year the faculty advisor (FA) /primary assistant instructor (AI) for each laboratory is:

SW3-1650: Sudip Talukdar (FA)/Aiden Kiani (AI)

SW3-1690: Renata Wood (FA)/Ray Daxon (AI)

SW3-1655: Colleen Chan (FA)/Ray Daxon (AI)

SW3-1695: Colleen Chan (FA)/Ray Daxon (AI)

SW1-1068/1070: Kian Karimi (FA)/Ken Zeleschuk (AI)

For the 2018-2019 Academic Year the representatives on the Occupational Health and Safety Committee for the department are:

1. Jan Bielenberg SW3-2082
2. Ray Daxon SW3-2087
3. Ken Zeleschuk SW3-2087

3.0 Contact Information

Emergency Numbers (Burnaby campus)

| | Non-Emergency | Emergency |
|----------------------------------|---------------|----------------------|
| Security Office – SW1-1016 | 604-451-6856 | 2248 (internal only) |
| Health & Safety | 604-456-8011 | N/A |
| First Aid | 604-432-8872 | 604-432-8820 |
| Emergency Planning | 604-432-8318 | N/A |
| Counselling and Medical Services | 604-432-8608 | 911 |
| Manager, Security | | 604-456-8009 |
| RCMP | 604-294-7922 | 911 |
| Fire | 604 -294-7190 | 911 |
| Ambulance | 604-872-5151 | 911 |

4.0 BCIT Policies for Safe Work Procedures

At BCIT Occupational Health and Safety is governed by BCIT Policy 7150 (Occupational Health and Safety) and BCIT Policy 5102 (Student Code of Conduct). These policies can be accessed online at:

<http://www.bcit.ca/files/pdf/policies/7150.pdf>

<http://www.bcit.ca/files/pdf/policies/5102.pdf>

Policy 7150: Policy 7150 describes the OH&S duties and responsibilities of:

- Supervisors

- Employees and Students
- Safety, Security and Emergency Management Department
- Occupational Health and Safety Committees

Under BCIT OH&S policy Faculty and Assistant Instructors are considered to be “Supervisors”. Refer to the following link for a description of the OH&S responsibilities ascribed to “supervisors”

http://www.bcit.ca/files/safetyandsecurity/pdf/oh_s_matrix_of_responsibilities.pdf

Policy 5102: Section 1.3 describes policy regarding Breaches of Safety Standards or Codes

BCIT OH&S Website: The following web site details more information on BCIT’s Safety, Security and Emergency Management procedures and guidelines:

<http://www.bcit.ca/safetyandsecurity/safety/program/safety.shtml>

Students are encouraged to familiarize themselves with the BCIT Student Safety Guide available at:
https://www.bcit.ca/files/safetyandsecurity/pdf/oh_s_student_handbook.pdf

5.0 General Lab Safety

- Act in a professional manner at all times.
- No horseplay and practical jokes.
- Visitors must be escorted.
- Students must be aware of the location and proper operation of laboratory safety equipment, e.g. fire extinguishers, flammable cabinets and fume hoods, eye-wash stations, and personal protective equipment.
- Operators must be alert to unsafe conditions. It is the responsibility of each individual to assure a safe working environment for themselves and other workers in the laboratories.
- Proper Personal Protective Equipment (PPE) specific to each laboratory must be worn at all times. Refer to Section 10.0 for further details.
- No eating, drinking, gum chewing or cosmetic application in the labs.
- Lab workers must be familiar with the hazards of the materials with which they are working. Consult the SDS sheets, before working with any hazardous materials.
- Work should not be conducted if the student is feeling tired or otherwise impaired.
- Do not carry out any work process that would create an undue hazard.
- Report all laboratory work related illness/injuries, no matter how minor to the BCIT Campus Security Office.

- Report all laboratory work related illness/injuries, no matter how minor to your instructor/FA/AI.
- Report all laboratory work accidents or near-misses to your instructor/FA/AI immediately.
- Report any hazardous conditions you may encounter in the lab to your instructor/FA/AI immediately.
- Acts of violence, threatening, or abusive behavior is strictly prohibited. Anyone witnessing such acts are expected to report the incident immediately to the instructor/FA/AI immediately.
- Students must attend health and safety training programs/orientations as instructed.
- Failure to comply with safety protocol listed in this document, or any related BCIT safety protocol may result in a student's final grade being withheld for a course or failure in a course.

6.0 Laboratory Supervision

- Students must always work under the supervision of an instructor/AI when in the lab.
- Faculty/Students who may be working unsupervised must complete a safety plan prior they are allowed to work in a lab. The safety plan will include the following:
 - A meeting with the FA/AI in charge of the lab, along with a representative from the BCIT OHS office.
 - Completion of an 'Unsupervised Work Safety Plan' (see appendices).
 - This plan will include at least (but not limited to) the following information: specify the hours student/faculty are allowed to work unsupervised, check-in/check-out procedures from the lab, equipment the student/faculty is allowed to use, specific tasks the student/faculty is allowed to perform, and a hazard assessment/mitigation strategy for tasks to be performed in the lab.

7.0 WHMIS and SDS

- Any materials brought into the lab must be accompanied by the appropriate SDS according to WHMIS.
- Students & Faculty Advisors (FA) must have a valid WHMIS certificate in order to use the laboratory facilities.

8.0 Housekeeping

- Lab areas are to be kept clean and uncluttered. Tabletops should be clear, and floors swept. This will help prevent spillage, breakage, personal injuries and unnecessary contact with chemicals.
- Doorways and walkways within the lab shall not be blocked or used for storage.

- Access to exits, hallways, emergency equipment, and utility controls shall remain accessible at all times.
- All tools and equipment shall be returned to their proper storage location after use.
- Damage to equipment must be reported immediately.

9.0 Samples

- Samples stored in the lab must be properly identified with a sample description, student name, course number, and date.
- Samples not properly identified may be discarded.
- Samples must be stored in a location specified by the instructor/FA/AI.
- Disposal of samples must be carried out according to appropriate sample specific guidelines.

10.0 Personal Protective Equipment (PPE)

Whenever possible, hazards should be eliminated or controlled at their source. If this is not possible, controls should be placed between the source and the worker. PPE may be used to control the risk associated with the hazard being dealt with. As such, students, Faculty and Staff working in the laboratories must wear PPE appropriate to the laboratory they are working in and the specific task being carried out.

Appropriate protection includes, but is not limited to:

- Proper eye protection: Safety glasses, chemical splash goggles, face shields etc. Students are responsible for providing their own eye protection.
- Footwear: Students must wear closed toed shoes at all time in any Civil Engineering Department lab. Furthermore, where required, students may be required to wear safety shoes/boots. The shoes/boots must be CSA certified having a 'Green Triangle', indicating it has sole puncture protection, as well as Grade 1 toe impact protection. Either steel or composite toes and plates are acceptable. Students are responsible for providing their own safety footwear.
- Respiratory protection: Students must wear appropriate respiratory protection when working with materials which pose a risk if inhaled. This may include face masks, dusk masks, or respirators, which will be made available for use in the lab.
- Gloves: Chemical resistant gloves must be worn whenever the potential for hazardous skin contact exists. Heat resistant gloves shall be used for handling hot objects. Before each use, gloves are to be inspected for damage or contamination. Gloves will be made available for use in the lab.
- Hearing protection: Hearing protection should be worn when students/staff/faculty are exposed to sounds in excess of 85 dB. Hearing protection will be made available for use in the lab.
- Clothing/Appearance: Long hair and loose clothing shall be confined. Clothing appropriate to the laboratory task must be worn at all times. No shorts, capris, skirts, or sleeveless shirts where

chemicals or machines are present. Students are encouraged to wear lab coats wherever a reasonable risk of exposure to clothing exists.

11.0 Signage

Signage shall be posted near each major piece of equipment in the laboratory which lists:

- The PPE required to use the equipment
- Instructions for using the equipment

All cabinets/drawers in a lab should be appropriately labelled. Safety signage will be posted throughout each laboratory, and will be enforced without exception.

12.0 Fire

Small fire in the lab: In the case of a manageable fire, not larger than 300mm in diameter, the fire may be extinguished using a fire extinguisher. The incident must be reported to the safety and security office immediately.

Large fire in the lab: In the event of an unmanageable fire or when it is larger than 300mm in diameter, all operators in the lab must exit quickly and calmly, and report the incident to the safety and security office immediately via the security stations on campus (the blue stations).

Fire in other areas of the building: In the event of a fire alarm, exit quickly and calmly from the nearest exit, move away from the building and check in with your supervisor at the Designated Assembly Area for the building.

Refer to the BCIT Burnaby Campus Emergency Preparedness and Response Guide (Page 26) for further information on what to do in case of a fire on campus.

13.0 Earthquake

In the event of an earthquake, take cover under sturdy furniture and hold on. If it is safe, stay where you are. After the earthquake, go to the designated assembly area. Watch for aftershocks. Emergency Response Personnel will advise you further.

Refer to the BCIT Burnaby Campus Emergency Preparedness and Response Guide (Page 16) for further information on what to do in case of a fire on campus.

14.0 Student Projects/Competitions

At the beginning of the term all students involved in research projects or competitions must submit to their FA a realistic lab work schedule indicating all anticipated lab activities for the term. Students will be granted access based on the availability of FAs/AIs. Anticipated equipment needs and/or training should be identified at this time. Students will be required to meet with the FA/AI in person to actively plan lab activities before the term, as well as over the course of the term as is required. Failure to do so will result in lab access privileges being denied.

Individual student lab schedules will be compiled into a master schedule and conflicts will be identified and resolved by the FA in consultation with the Assistant Instructors.

For each academic term, the FA/AI will provide several time slots during the week that the lab will be available for student project use. It is the responsibility of the student to fit their schedule around these available times. Other times may be available depending on scheduled classes and availability. Requests for alternate times can be discussed in person, or submitted in writing to the FA/AI.