

GENERAL LAB SAFETY & OPERATION PROTOCOLS FOR TEACHING ASSISTANTS

UBC OKANAGAN SCHOOL OF ENGINEERING

July 25 2019



SAFETY IS EVERYONE'S RESPONSIBILITY

- Safety in the lab begins with the people in charge
 - Course instructor
 - Teaching assistants
 - Technical support staff
- TAs must always follow the safety rules and be the prime example for students to follow
- TAs are responsible for all aspects of the lab including teaching, behaviour of students and marking



LAB RESPONSIBILITIES

- TAs must always wear their personal protective equipment, PPE
 - The PPE requirements are listed in the lab manual
- TAs must review the safety requirements of each lab prior to the start of the lab including PPE, precautions and lab instructions
- It is the TA's responsibility to ensure that all of the students work in a safe environment including the requirement for students to don PPE
- UBC does not tolerate the failure to follow safety requirements in the lab
- Horseplay in the lab is not acceptable.



STUDENT CONDUCT

Students are required to follow the safety requirements of the lab

Student must:

- Show up on time for the labs
- Come prepared for the labs
- Come with and wear the required PPE
- Wear the appropriate clothing for the labs
- Follow the instruction of the TAs and technical support staff

Should a student choose not to follow the requirements, they may not participate in the lab. This is a violation of the student code of conduct and they can be asked to leave.

It is the TA's responsibility to enforce safety within the lab



THE FIRST LAB

At the start of the first lab of the term, the TA must go over emergency procedures. This includes

- Emergency contact numbers
- First aid on campus, and location of first aid kits
- Instructions on what to do in the event of a fire alarm
 - Exit routes and muster stations
- How to use eyewash stations and showers (if applicable to the lab)
- Fire extinguishers



EMERGENCY CONTACT NUMBERS

All emergencies

(first aid, fire, ambulance, spills, security, etc.)

Lab phone: **7-8111**

Cell phone: **250-807-8111**

Or **911**

Security (non-emergencies)

Lab phone: **7-9236**

Cell phone: **250-807-9236**



EMERGENCY CONTACTS

When calling for emergencies:

- Know your location
 - Room number (ex. EME 2220)
 - Building address (1137 Alumni Avenue, Kelowna BC, V1V1V7)
- Details of situation
 - Provide as much accurate information to dispatch as possible
- Wait for assistance to arrive (if it is safe to stay)
- Always inform your instructor of any incidents, no matter how minor.
 - Even a small cut to the hand, the instructor needs to know



EMERGENCY EXITS

- If you hear an alarm, immediately stop the lab & inform the students to stop everything they are doing and to turn off the equipment
- Immediately evacuate the lab, do not allow students to gather belongings
- KNOW THE EVACUATION ROUTE AND LOCATION OF MUSTER STATION
- Ensure all students exit building and make it to the muster station



WORKSAFEBBC REQUIREMENTS

Supervisors play a key role with very specific health and safety responsibilities that need to be understood.



A supervisor is a person who instructs, directs, and controls workers in the performance of their duties. A supervisor can be any worker — management or staff — who meets this definition, whether or not he or she has the supervisor title. If someone in the workplace has a supervisor's responsibilities, that person is responsible for worker health and safety.

As a TA you are a supervisor

WORKSAFEBBC REQUIREMENTS

Your responsibilities:

- Ensure the health and safety of all students under your direct supervision
- Know the requirements that apply to the work under your supervision and make sure those requirements are met (follow the lab manual)
- Ensure students under your supervision are aware of all known hazards (hold a safety talk at start of lab)
- Ensure students under your supervision have the appropriate personal protective equipment, which is being used properly (ensure student bring, and wear their PPE at all times)



FINALLY...

- Be aware of your surroundings
- Be aware of what the students are doing at all times
- Know what to do in case of an emergency



School of Engineering – Guide for Undergrad Lab Roles



OKANAGAN

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Undergrad Lab Responsibilities & Operations

This guide is meant to:

- A. Define the responsibilities of the Professors, TA's, Undergrad Teaching Lead, Technicians and SoE Lab Manager as related to daily undergraduate lab operations
- B. Clarify lab operational procedures such as:
 - a. Instruction
 - b. Absenteeism
 - c. Safety
 - d. Equipment
 - e. Scheduling & makeup labs

Responsibilities:

Professor:

1. Provides lab schedules to TA's & Undergrad Teaching Lead. Is responsible for coordinating any makeup labs in the event of any lab cancellations due to holidays, etc.
2. Sets expectations with TA's & Technicians at the beginning of the term, prior to labs commencing
3. Ensures that lab manuals are available, relevant & up-to-date
4. Delegates any specific lab requirements & notifies of any changes to lab content ideally 6 months prior to term to enable ordering & setting up of new equipment & lab procedures
5. Is ultimately responsible for student and TA safety
6. Approves, or denies, any student requests for makeup labs for any labs missed. Makeup sessions will be restricted to labs where there is space available. Under no circumstances will the maximum room capacity be exceeded.
7. Develops and maintains marking guidelines and ensures consistent accurate marking between TAs and lab sections
8. Instructs lab session in case of TAs absence
9. Responsible for TA conduct, and if necessary corrective measures as outlined by their Union
10. Fields complaints from students on lab issues and/or concerns

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TA's:

1. Required to show at least 10 minutes prior to lab start to ensure setup is in place & confirm the equipment is ready & has been prepared by a Technician
2. Responsible for student safety during the lab. Obligated to stop and correct any unsafe practices
3. Allow students access to the lab during their scheduled lab time
4. Instruct students during lab:
 - a. Theory
 - b. Experimental procedures
 - c. Equipment use
5. Reviews lab safety with students:
 - a. General Lab Safety training at beginning of term
 - b. Specific Lab Safety training on the various experiments as they arise during the term
6. Informs Technicians of any equipment malfunction or safety concerns
7. Informs the Professor and Undergrad Teaching Lead of student attendance & of any student misconduct requiring action
8. Participate in the evaluation of the students' performance
9. Ensures the lab is vacated on time. Example: a 2-hour course is actually only 110 minutes allowing students time to get to their next class. A lab scheduled from 2-4 is actually 2-3:50 as per the academic calendar.
10. Ensures all equipment is powered off and no hazards remain
11. Enforce academic conduct of the students in the lab
12. Ensures lab is not overcapacity in the event of students completing make-up labs

Technicians:

1. Assist in training TA's on the following:
 - a. General & any specific Lab Safety
 - b. Equipment operation & lab procedures
2. Equipment setup prior to lab
3. Ensures all lab setups are working correctly, prep any materials for use in the lab based on professor's instructions
4. Equipment teardown
5. Ensure supplies, chemicals, and parts are ordered and available for the labs based on Professor's instructions
6. Conduct timely repairs of any equipment to the best of the technical staff's combined abilities
7. Responsible for their own safety in the lab. Obligated to stop and correct any unsafe practices observed in all labs.
8. Participate in the evaluation of the TA's performance & provides recommendations for future hire

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Undergrad Teaching Lead:

1. Coordinates with instructor to make sure the availability of updated lab manuals
2. Facilitates hiring process with professor to hire qualified TA's based on required skill set for any specific lab
3. Consults with professor to train TAs and will ensure the implementation of a TA training program
4. Coordinate with the Safety Lead for TA's safety training
5. Coordinate with the Safety Lead to maintain TA training records
6. Schedule TA training in conjunction with the Professor and technician
7. Visits labs sessions to make sure the smooth lab activities by TAs

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Absenteeism:

Professors:

1. Deals with TA's if they fail to comply with their responsibilities; i.e. as related to their attendance, instruction, student supervision, etc.

TA's

1. Are responsible for student attendance & provides feedback to Professor
2. Are responsible for managing their own attendance. If they are unable to attend a lab, the TA is required to:
 - a. Coordinate a replacement to take their place
 - b. Inform the Professor, Undergrad Teaching Lead & Technician prior to lab start

Technicians

1. Are responsible for managing their own attendance. If they are unable to attend a lab, the Technician is required to:
 - a. Coordinate a replacement to take their place
 - b. Inform the SoE Lab Manager and Undergrad Teaching Lead
2. In the event that a TA is late or not available for a lab & there is no replacement, the technician shall:
 - a. Not allow students in lab until TA or Professor arrives
 - b. Notify the Professor to make alternate arrangement
 - c. Notify SoE Lab Manager and Undergrad Teaching Lead
3. If after 15 minutes into the lab there is still no TA, or if the Technician is unable to reach the Professor, the Technician will advise the SoE Lab Manager and Undergrad Teaching Lead in order to receive further instructions. In no way will the Technician attempt to conduct the labs by themselves.

Undergrad Teaching Lead:

1. In case of absence, lead will inform the Director SoE, Professor & SoE Lab Manager.



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Overview:

Prof:

- Gather information from technician(s) regarding TAs from the previous year
- Interview and select TAs
- Provide list of selected TAs to Lab Manager and Undergrad Teaching Lead
- Provide and maintain lab manuals

TA:

- Accept offer letter for the position
- Attend TA training and follow all instructions outlined by the professor
- Teach all assigned lab sections and provide backup for other TAs
- Ensure safety procedures are followed in the lab

Undergrad Teaching Lead:

- Verify that the list of selected TAs have chemical safety training
- Coordinate the responsible technician for the course with the Lab Manager
- Schedule TA training in conjunction with the technician and Professor

Technician:

- Assist in TA training
- Setup and tear down equipment
- Ensure safety procedures are followed in the lab

Lab Manager:

- Provide Professor a list of technicians for each lab
- Ensure technicians fulfill duties at labs as well as schedule any back up required

Revision History:

April 2018 – Revision: 0.1 Draft Release. Authors: Marc Nadeau
August 12, 2018 – Changes: Minor edits. Authors: Marc Nadeau, Alec Smith
August 25, 2018 – Revision 1.1 Approval, Addition of Overview. Authors: Alec Smith
August 23, 2019 – Revision 1.2 Approval, Revise positions. Authors: Alec Smith



TA ACKNOWLEDGEMENT

I have read this document & reviewed the safety rules for my specific lab with my Supervisor. I understand my responsibilities and requirements for maintaining a safe lab environment for our students.



Name

Signed

Date

Course



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