LABORATORY CODE OF CONDUCT

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DEPARTMENT OF BIOENGINEERING

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INTRODUCTION

The Department of Bioengineering is committed to providing a safe laboratory environment for all. It is, therefore, important that employees, students, visitors, and guests follow the *Laboratory Code of Conduct* **at all times**. These policies and rules are taken from the Canadian Biosafety Standard and EHS, and include appropriate attire, Personal Protective Equipment (PPE), and behaviour when present in the research laboratories.

Please note that the *Laboratory Code of Conduct* is a guide; it is **your** responsibility as a worker to be informed about the danger of your environment and to respect the rules. Accidents must be reported immediately your Research Supervisor and Lab Manager. If you are in doubt or have any questions, please **ask** your Research Supervisor and/or Lab Manager. **Failure to abide by any of these rules may result in revoking your lab access privileges** (see **Section III**). You will be authorized to return to the lab only after the appropriate safety measures have been followed and approved by your Research Supervisor.

SECTION 1: LABORATORY CODE OF CONDUCT GENERAL SAFETY RULES

1. Lab behaviour rules

1.1. Always conduct yourself in a professional and responsible manner in the lab.

1.2. Use caution and common sense in the lab; be aware of others and your environment.

1.3. Familiarise yourself with your work before coming into the lab.

1.4. It is forbidden to work with equipment without prior training.

1.5. Under no circumstances should laboratory material or equipment be moved or removed from the lab without supervisor authorization.

1.6. Guests are not allowed in the lab unless permission was given by your Research Supervisor. If allowed, they must be accompanied at all time.

1.7. Food and drinks are strictly forbidden in the lab. If you are working with food, it will be considered a sample and must be destroyed at the end of the lab.

1.8. Personal electronic devices (such as cellphones) are forbidden in Level 2 labs. They should be used with discretion in Level 1 labs, as they are a frequent cross-contamination vector.

1.9. Keep your work space clean.

1.10. Wash your hands before and after your work.

2. Proper lab attire and Personal Protective Equipment (PPE)

2.1. Lab coats must be worn, and in a proper manner, all times in the lab.

2.2. Gloves must be worn at all times in the lab. When travelling between labs or in hallways, you must have at least one ungloved hand to open doors, or be accompanied by someone who is not wearing gloves.

2.3. Hats, scarves, caps, and all other non-necessary clothing/accessories are forbidden in the lab, with the exception of religious clothing or scarves. Avoid flammable/plastic-based fabrics.

2.4. Long hair must be tied back.

2.5. Pants must completely cover all parts of the leg, including ankles. Avoid flammable fabrics.

2.6. Shoes must completely cover the foot. No ballerina shoes, sandals, flip flops, etc.

3. Best practices

3.1. **Microbiology**: All microbiology work is currently done in the SB-3585. UQAM is kindly allowing us to use their facilities, so please follow the *Laboratory Code of Conduct* in this space as well.

In order to have access SB-3585, you must be trained or supervised by someone who has experience and is trained to work in this specific area.

If you are working with bacteria and eukaryotic cells the same day, take extra care to avoid cross contamination of bacteria.

3.2. **Pipetting**: Use the adequate pipetting techniques to transfer liquids in order to prevent damage to the pipette.

3.3. **Balance**: You must clean your working area after using a balance. No powder or liquid should be left behind.

A. WASTE DISPOSAL SYSTEM

1. Non-hazardous/recycling

- Non-hazardous waste can be disposed of in the regular **black bag** containers (Fig. 1).
- Recycling can be disposed of in the regular **transparent bag** containers (Fig. 2).

Figure 1: Non-hazardous waste containers

Figure 2: Recycling containers

2. Biohazard

- Biohazard waste should be disposed of in orange bags or dedicated containers with the appropriate labelling:
    - Big biohazard bag (Fig. 3, #1) should be used for big items such as petri dishes and flasks.
    - Pipette bag (Fig. 3, #2) should only be used for serological pipettes.
    - Red biohazard bag (Fig. 3, #3) should be used to double bag pipette tips. These bags should be sealed and put into the big biohazard bag (#1).
- Before the disposing of a biohazard bag, you must fill in a biohazard label (found next to the bags) with the date and location, "McGill 5th floor," and attach it to the bag with a twist tie.

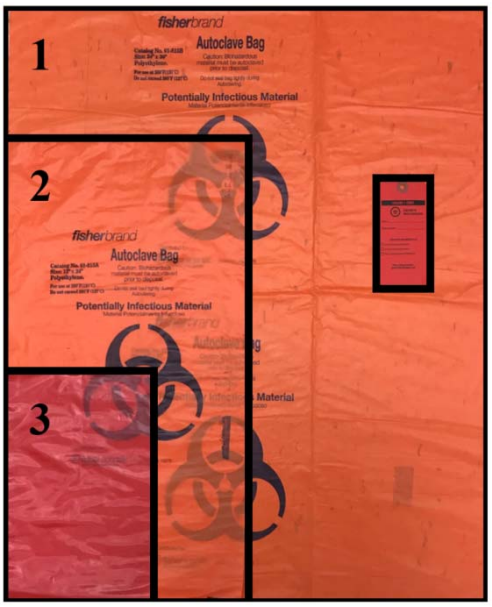

Figure 3: Biohazard bag sizes available at UQAM

3. Sharps

- Sharp items (needles, microscope slides, Pasteur pipettes, etc.) must be discarded in the appropriate hard sharps container (Figure 2). Tips are not considered sharps.

Figure 4: Sharps container available at UQAM

4. Chemical

- Chemical waste should be disposed of according to its chemical properties and reactiveness following the MSDS recommendation. If chemicals do no react with each other and are the same type of waste, they can be disposed of together.
- There are two types of containers for chemical waste:
    - **White** for corrosives – Acids, bases, etc. (Figure 3.1) and
    - **Yellow** for flammables – Alcohols, etc. (Figure 3.2).

Figure 5.1 and 5.2: Chemical containers available at UQAM
white for corrosive / yellow for flammable

5. Mixed and miscellaneous

- Small amounts of mixed chemicals and biohazardous waste should be disposed of in the appropriate gelling agent container for biological waste (red label) or miscellaneous waste container (orange label) (Figure 4).

Figure 6: Waste containers for biological and miscellaneous waste red label for biological waste / orange label for miscellaneous waste

SECTION II: LAB SAFETY ORIENTATION CHECKLIST

Please check all items that have been fully explained to you by your Research Supervisor or delegate, for which you have received training, and/or for which you have read the written procedures. For items not applicable to your work or research activities, indicate N/A (not applicable).

A. POLICIES

I was informed of McGill University's Health & Safety Policies, including:

- Laboratory Responsibilities
- Health & Safety Internal Responsibility System
- Personal Protective Equipment (PPE) Policy
- Accident, Incident, and Occupational Disease Reporting Policies and Procedures
- Reporting a Safety Hazard

B. SAFETY RESOURCES

I was informed of the various Health & Safety resources available, including:

- Departmental Safety Committee
- Departmental Safety Officer
- Certified First Aid Providers
- Environmental Health & Safety (514-398-4563, www.mcgill.ca/ehs)
- McGill Student Wellness Hub (students only, www.mcgill.ca/wellness-hub)

C. EMERGENCY PROCEDURES

- I was informed of McGill University's emergency phone numbers and procedures.

IMPORTANT:
In case of an accident or incident requiring an ambulance, fire services, or the police, call **911.** If calling 911 from a cellular phone, you must also call McGill Security Services immediately at:
Downtown: 514-398-**3000** (MNI: 55-555)
UQAM Campus: 3131 from a red phone

D. BASIC LAB SAFETY

- o I have read McGill University's *Laboratory Safety Manual*
- o I know the location of the closest fire alarm pull stations
- o I know the location of the fire extinguishers
- o I know the location of the closest emergency exit and have been instructed as to the evacuation route
- o I know the location of the First Aid kit
- o I know the location of the eyewash and emergency shower and was instructed how to operate them *(do not pull the handle of the safety shower during orientation)*
- o I was instructed on proper lab attire
- o I was instructed not to eat, drink, or apply makeup in the lab
- o I was provided with the following Personal Protective Equipment (PPE) and was instructed in its proper maintenance and use (select all that apply):
    - o Disposable gloves
    - o Lab coat
    - o Safety glasses
    - o Chemical goggles
    - o Face shield
- o I was instructed **not** to wear lab coats and gloves out of the designated lab area
- o I was informed as to the location and purpose of Material Safety Data Sheets, the Laboratory Information Card, and other safety symbols and signage
- o I was informed of the importance of good personal hygiene and understand the proper hand-washing protocol
- o I have read McGill University's Work Alone Policy

E. BIOHZARD LAB SAFETY

- o I have read McGill University's *Biosafety Manual*
- o I have read McGill University's Biohazards Safety Policy
- o I have received instruction on the safe handling and storage of biohazardous materials
- o I have received instruction on the decontamination procedures for the techniques performed in the lab
- o I have received instruction on the appropriate measures to take in case of a biohazard spill, exposure, or incident

F. CHEMICAL LAB SAFETY

- o I have received instruction on the safe handling and storage of chemicals
- o I have received instruction on the safe disposal procedures for chemicals
- o I have received instruction on the appropriate measures to take in case of a chemical spill
- o I have received instruction on safe chemical fume hood operation

G. LASER SAFETY

- o I have read McGill University's Laser Safety Policy
- o I have received instruction on the safe handling of lasers

H. HAZARDOUS WASTES DISPOSAL

- o I have read McGill University's Waste Disposal Guidelines
- o I have read McGill University's Hazardous Waste Disposal Policy
- o I was informed of and understand McGill University's and UQAM's waste disposal procedures for: sharps, biohazardous waste (e.g. infectious agents, blood, and bodily fluids), chemical waste, and radiation waste

I. LAB EQUIPMENT SAFETY TRAININGS

- o I have received instruction on the safe use of the following laboratory equipment and feel comfortable using them:
    - o Autoclave
    - o Centrifuge
    - o Fume hood
    - o Furnace
    - o Microscope
    - o Other:_____

J. SAFETY TRAINING REQUIREMENTS

Research Supervisors must identify which safety training provided by EHS is required (Table 1).

Table 1: Safety training requirements

Training Course	Required (Y/N)	Date Trained (DD/MM/YY)	Lab Personnel's Initials	Certificate on file (Y/N)
Workplace Hazardous Materials Information System (WHMIS) Training for Laboratory Personnel				
Hazardous Waste Management & Disposal Training for Laboratory Personnel				
Introduction to Biosafety				
Safe Use of Biological Safety Cabinets				
Principles of Laboratory Radiation Safety				
First Aid in the Workplace (Optional)				

Section III: Warning system

In an effort to match industry standards and EHS requirements, a warning system has been put into place. Individuals caught violating the *Laboratory Code of Conduct* will be given a warning by the Lab Manager (or Research Supervisor) followed by the appropriate penalty outlined below.

There are three levels of infractions:

- **MINOR**: Loss of research productivity or quality
- **SIGNIFICANT**: Damage to laboratory equipment
- **MAJOR**: Injury to yourself or others

Three warnings in a given infraction category will result in the penalty of the next infraction level. All infractions will result in a note on your file and a notification to your Research Supervisor.

Table 2: Lab infractions and penalties

INFRACTION	BEHAVIOUR	PENALTY
MINOR	• Improper use or storage of PPE • Improper clothing (leaving parts of the lower body exposed, nylon tights, etc.)	• Leave the lab and correct the situation according to *Laboratory Code of Conduct*
	• Abandoned glassware in the sink • Working area not cleaned after work (residue on balance, forgotten glassware, etc.)	• Clean all the glassware in the sink at the time of discovery • Clean work area
	• Logbook not used	• General cleaning of lab/equipment as decided by Lab Manager
SIGNIFICANT	• Absence of PPE • Improper use of equipment and using equipment without necessary training • Any Minor warning when in BSL2 • Reception of three Minor warnings	• Stop the work you are doing and correct the situation immediately • Sorting of the chemical cabinet and update MyLab database • Deep cleaning of equipment as assessed by Lab Manager • Meeting with Research Supervisor and Lab Manager
MAJOR	• Improper storage of chemicals • Food in lab • Any Significant warning when in BSL2 • Reception of three Significant warnings	• Temporary dismissal from the lab • Retaking of EHS safety exams • Meeting with Safety Committee

Section IV: Bioengineering community rules

A. LAB CLEANLINESS AND MAINTENANCE

A clean and well-organized lab is imperative for safe and efficient daily operations. In order to maintain a hygienic environment, the Lab Manager will assign cleaning tasks based on research-group size and use of a specific space. It will be then be the Research Supervisor's responsibility to delegate these tasks within his/her/their group as he/she/they see fit. Tasks include, but are not limited to: preparing biohazard waste for Tuesday pickup and other tasks related to the BL2 labs, removing ice from the -80°C, cleaning the kitchen fridge, meeting room, and lab space, etc.

B. UNDERGRADUATE STUDENTS

Undergraduate students are welcome in the research lab space as long as they are directly supervised by an experienced lab member at all times. Their status is considered "visitor" and their access will be limited to regular work hours (Monday-Friday, 9am-5pm) under the supervision of the Lab Manager, or other times as agreed upon by their Research Supervisor. Undergraduate students must report to their Research Supervisor or Lab Manager before leaving and ensure nothing was left behind. If an undergraduate student or team must work alone, their Research Supervisor must give written authorization to the Lab Manager. For safety reasons, students must also email the Lab Manager their check-in and check-out times.

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I have read and understood the all rules and regulations in the Department of Bioengineering's *Laboratory Code of Conduct* and have been introduced to all applicable points in "Section 2: Lab Safety Orientation Checklist." I hereby agree to follow all the rules and regulations described in the Department of Bioengineering's *Laboratory Code of Conduct*, including any updated versions available online.

Research Supervisor's Name	**Signature**	**Date**

Lab Manager's Name	**Signature**	**Date**

Section V: Lab Personnel signatures

I have read and understood the all rules and regulations in the Department of Bioengineering's *Laboratory Code of Conduct* and have been introduced to all applicable points in "Section 2: Lab Safety Orientation Checklist." I hereby agree to follow all the rules and regulations described in the Department of Bioengineering's *Laboratory Code of Conduct*, including any updated versions available online.

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