EvCC Biology Laboratories: Safety, Procedures, and Emergencies
[last updated by Crowther/Dooley/Nguyen, April 2022]

Our primary laboratory goal is to familiarize you with laboratory work in a safe learning environment. It is therefore MANDATORY that all safety guidelines be followed at all times. Below is a list of some of the most important laboratory guidelines to follow; additional information is provided by the instructor as necessary. Failure to comply with these rules may result in a grade reduction or, in extreme cases, expulsion from the lab.

1: General

1.1. Visitors (non-EvCC students) under 16 years of age and children are not allowed in the lab rooms at any time. Visitors over 16 may be allowed at the instructor's discretion.

1.2. Be on time for scheduled lab sessions. If you are late you might miss important safety announcements, instructions, etc.

1.3. No open food or drink is permitted at any time, whether a lab is in progress or not. No eating, drinking, candy, cough drops, chewing gum or tobacco. All beverage and food containers must be put away in a backpack/bag/purse or left outside of the lab.

1.4. Know your own allergies and be aware of the potential allergens (e.g. penicillin, pollen, latex, peanuts, liquid cleaners) that might be present in the laboratory. Take the necessary precautions to prevent allergic reactions.

1.5. To ensure that you understand the guidelines presented here, you may be required to pass a laboratory safety quiz and/or to affirm a statement such as the following: "I have reviewed and I understand the laboratory safety rules for this course. I understand that I can be dismissed from that day's lab activity for not following proper safety procedures. I understand that repeated safety violations may result in dismissal from the rest of the laboratory exercises without the option to make up any missed laboratory grades."

2: Clothing and Personal Protective Equipment (PPE)

2.1. Wear appropriate clothing and shoes at all times in the laboratory. "Appropriate" means covering the skin, but not excessively loose or dangly.

2.1.1. Open-toed shoes or sandals are not to be worn in the lab because chemicals might spill directly on your skin. Students with this type of footwear will need to cover them with booties.

2.1.2. High heels are not permitted due to the risk of tripping.
2.1.3. If you wear inappropriate clothing, you may be asked to put on additional garments for safety.

2.2. Long hair should be tied back. If necessary, you may be given an elastic band and asked to secure your hair.

2.3. Wear gloves to protect hands from exposure to hazardous materials (cadavers, chemicals, bacterial broth cultures, etc). Alternatives to latex gloves should be available.

2.3.1. Change gloves when contaminated, integrity has been compromised, or when otherwise necessary. Wear two pairs of gloves when appropriate.
2.3.2. Do not wash or reuse disposable gloves. Dispose of used gloves with other contaminated laboratory waste. Hand washing protocols must be rigorously followed
2.3.3. Remove gloves before leaving the laboratory and before touching common-use items such as telephones, doorknobs, keyboards, drawer handles, microscopes, models, etc.

2.4. Wear safety glasses when handling cadavers, caustic chemicals, bacterial broth cultures, etc.

2.4.1. We do not recommend wearing contact lenses in lab. Lenses may absorb fumes and cause permanent damage.

2.5. Wear lab aprons or lab coats as advised by your instructor.

2.6. Keep your hands away from your face, eyes, and mouth when working with cadavers, chemicals, preserved specimens, microorganisms, or body fluids.

3: Equipment and Chemicals

3.1. Scalpels and other sharp objects can be used only if supervised by the instructor and only after given proper handling instructions. When handling sharp objects, point their tips down and away from other people.

3.2. Minimize breakage by keeping glass objects away from the edges of your bench and by keeping glass microscope slides in a safe location.

3.3. Approach all chemicals with caution. We may use strong acids and bases that can cause chemical burns.

3.4. Never remove chemicals or microscopes from the laboratory. Anyone caught doing so is subject to disciplinary action. Educational tools or models may be used outside the classroom with instructor permission; these must be returned before the closing of open labs.

3.5. Safety information regarding reagents used in lab activities can be found in the Material Safety Data Sheets (MSDS), which are available online at https://chemicalsafety.com/sds-search/.

3.6. Notify your instructor if any equipment is faulty.

4: Housekeeping

4.1. Lab benches and floors should be kept free of extraneous items while conducting experiments. This includes unnecessary books, backpacks, cell phones, and other personal items.

- 4.1.1. Place backpacks, bags, etc. on the provided shelves.

4.2. Dispose of wastes in the designated receptacles.

- 4.2.1. Dispose of broken glassware and non-biohazardous used slides in broken glass containers. If cleaning up broken glass, use a broom and dustpan.
- 4.2.2. Biohazardous wastes must be put in a biohazard waste container.
- 4.2.3. Uncontaminated gloves can be disposed of in the regular trash. Contaminated gloves must be disposed of in a biohazard waste container. Examination gloves used in dissections are not considered to be biohazard waste and can be disposed of in the regular trash.
- 4.2.4. Empty the trap in your table's sink.

4.3. Leave the lab in the same or better condition than when you entered.

- 4.3.1. Put away all equipment and reusable supplies.
  - 4.3.1.1. Put all microscopes back properly. The arm ("handle") of the microscope facing outward, the platform all the way down, the scanning (shortest) lens pointed at the platform, all slides removed, cord bundled so that it's not caught between platform and lenses or platform and mirror.
  - 4.3.1.2. Wash and dry any glassware or trays that you have used.
  - 4.3.1.3. Return other lab items to designated locations in drawers or cabinets.
- 4.3.2. Wipe the entire work surface down with disinfectant (Lysol).

4.4. Wash your hands before leaving the lab room.

5. Working with Blood, Urine or Saliva

5.1. Line the work area with clean paper towels or underpads.

5.2. Only handle your own body fluids.

5.3. Wear gloves, safety glasses, and aprons.

5.4. Dispose of all supplies that may have come into contact with urine, blood, or saliva in the appropriate biohazard container.

5.5. Dispose of urine in the bathroom toilet and saliva in the sink, flushing with plenty of water.

5.6. After lab, wipe down work area with disinfectant (Lysol) and wash hands thoroughly.

6: After-Hours Use of Laboratories (“Open Lab”)

6.1. Outside of official class sessions, students may, with instructor permission, use laboratories for extra practice during defined hours of operation. During all such hours, a biology instructor or staff member must present in the lab room or on the 1st floor of Shuksan.

6.2. If no instructor is present in the room, sharps (e.g. scalpels), chemicals, and flames may not be used.

6.3. Students must follow all lab safety rules that govern normal lab sessions.

6.4. Use only equipment that you have been trained on and have permission to use.

6.5. Do not remove or modify any equipment, models or specimens without permission.

6.6. Immediately report any incidents or misconduct to an instructor or campus security.

7: Anticipating and Handling Mishaps

7.1. Know the locations of the eye-wash and shower stations, fire alarm, fire extinguisher, first-aid kit, and emergency exits (generally pointed out on the first day of lab).

7.2. If you have an illness that might interfere with your ability to do the lab safely, or if you become ill during lab, tell your instructor.

7.3. Report all injuries, breakages, and spills to your instructor immediately.

7.4. Handle spills appropriately.

7.4.1. Immediately treat small spills on your hands with running water. (Do NOT wait to see if it starts to hurt!)

7.4. 2. A few drops of most benign chemicals may be cleaned up with water and a paper towel.

7.4.3. Spills of concentrated acids or bases, or other hazardous chemicals will be handled by the instructor. Do not try to handle these spills yourself.

8: Fire

8.1. Make sure you know the locations of the fire extinguisher, fire alarm, and gas cutoff switch (generally pointed out on the first day of the lab).

8.2. Long hair and loose clothing must be well-controlled whenever flames are in use in the laboratory.

8.3. When a fire alarm sounds, evacuate as directed. Elevators should not be used.

9: Earthquake

9.1. Stay away from glass windows.

9.2. Crawl under sturdy furniture.

9.3. Turn off the main gas line.

9.4. Look out for aftershocks.

10: Lockdown

10.1. The instructor will close and lock doors to every classroom.

10.2. Students should move to the interior walls of the classroom, away from windows and doors.

10.3. All window shades are shut and lights are turned off.