

University of New Haven Department of Forensic Sciences

LABORATORY SAFETY POLICIES AND PRACTICES

For all individuals using the research labs

Carefully read the following policies and practices before using the labs in any capacity

Mandatory Training Requirements: Must be completed before using the Forensics labs in any capacity.

1. **Students** participating in any capacity in a Forensic lab – including classroom labs, research labs or the crime scene house- must take the UNH Canvas **Lab Safety training and quiz every semester**. Training must be completed with a score of $\geq 70\%$ before beginning lab work, including research projects and TA duties.
2. **Students** participating in any capacity in a Forensic lab that uses human body fluids – directly or stained material – must take the UNH Canvas **Bloodborne Pathogen (BBP) training and quiz every semester**. Training must be completed with a score of $\geq 70\%$ before beginning lab work.
 - a. **Students** working with certain hazards will also need to be **fitted for a N95 mask** annually by Triumvirate at the discretion of their advisor or the lab manager.
3. **Instructors** must complete the UNH Lab Safety training and quiz, and BBP training and quiz, **annually**.

General Requirements:

1. **Do not** eat, drink, use tobacco products, apply cosmetics, touch contact lenses, or bring food items into any lab spaces, including classrooms. Store food and drink in hallway cubbies.
2. Do not use lab refrigerators, freezers, or ovens for food storage. Do not ingest ice from machines.
3. **Sign in and out of research labs.** Undergraduate researchers must always have a graduate student, faculty member, or lab manager on the floor when doing research. Graduate students may work alone only when necessary and after obtaining clearance from their advisor.
4. **Wear appropriate PPE** and replace your gloves as needed. Do not handle personal items with your gloves on.
5. Do not block emergency safety showers or eyewash stations.
6. At the end of your day: clean the benchtop, put away materials and samples, turn off all equipment, dispose of waste appropriately. All users must wash, dry, and store all glassware used. Do not write on the laboratory bench paper.
7. Label all stored samples with your advisor's name, your name, and the date generated.
8. **Never dump chemical waste down the drain.**
9. Obtain clearance from your advisor if you must run an experiment while you are gone. Obtain an "Unattended Experiment" sign and place it in a conspicuous place.
10. Gloves are to be removed before leaving the lab and may not be worn in non-laboratory areas. Wash your hands before leaving the lab space.
11. Report unsafe conditions or situations to your advisor or the lab manager.

Personal Protective Equipment (PPE): Mandatory or you may be denied entrance into the lab.

1. **Eye protection** must be worn when performing lab work, unless using a microscope. Use ANSI approved Visorgogs or Flex Seal goggles.
2. Face shields should be used when working with large volumes of liquid chemicals.
3. Avoid wearing contact lenses in the lab if possible.
4. **Nitrile gloves** must be worn when handling chemicals or samples of any kind. Inspect gloves for tears or holes; never reuse gloves.
 - a. Cut-resistant gloves may be needed in certain situations- check with your advisor or the lab manager.
5. **Lab coats** must be worn when performing research. Your arms and legs must be covered. No knee length garments or open-toe shoes are allowed.
6. Tie back shoulder length or longer hair and confine loose clothing.

Hazardous Material Safety:

1. Unauthorized experiments are prohibited. Perform the experiments as directed.
2. Review all SDS (Safety Data Sheets) online through UNH's portal before working with or disposing of any chemicals. Take note of hazards, PPE, and incompatible materials.
3. Never taste or smell a chemical. Check odors only if instructed to do so by gently wafting some of the vapor towards your nose with your hand.
4. Do not mouth pipette; use an electric or manual pipette.
5. Use a biosafety cabinet or a fume hood when necessary; do not use a biosafety cabinet as a fume hood.
6. When working with chemical fume hoods, work with the sash at the lowest possible position and work at least eight inches back from the front opening.
7. Read the chemical labels very carefully. Read them 3 times: when you pick it up, before you use it, and after you are finished. Always consult your instructor and review the online SDS if you are unsure.
8. Never return unused chemicals to the stock bottle; dispose of or store excess in a secondary container.
9. Review proper chemical handling before working with any chemicals. Ask if you are unsure.
10. All secondary containers must be labeled with the full chemical composition name, the course/instructor, name or initials of the person who prepared the reagent, and the date of preparation.
11. Only authorized users may move chemicals, supplies, or equipment between labs when necessary.
12. Only authorized users may transfer hazardous chemicals between rooms. This should be done in a secondary container, which can be found in Room 412.

Spills, Accidents, and Emergencies:

1. **CAMPUS POLICE EMERGENCY NUMBER: X7070 (203-932-7070)**
2. Learn the locations and operation of eyewashes, fire extinguishers, fire alarms, sinks, first aid kits, emergency showers, and **emergency phone (located next to the elevator, speed dials campus police)**. Emergency services can also be reached via classroom or lab phones (dial 7070).
3. Be aware of emergency procedures and how to evacuate the lab and building.
4. Report **all** accidents, injuries, and near misses (close calls) to your instructor or advisor **immediately**. Complete accident/near-miss form with the lab manager as soon as possible.
5. The instructor, advisor, or lab manager will retrieve SDS in case of emergency, it is important you know or can indicate what you were working with if an accident occurs.
6. For any large or acutely hazardous spills, remove all individuals from the affected areas. Immediately call **campus police X7070 (203-932-7070)** to report it. Contact the lab manager.
7. In case of burns, run the area under cold water for at least 15 minutes. Notify the instructor, advisor, or lab manager. If the burn is mild, report to Health Services for further treatment. If the burn is moderate to severe, emergency services should be called for transportation to medical care. Medical personnel will need the SDS for treatment of chemical burns of any severity.
8. If a chemical is splashed on your skin, body, or eyes, **immediately** remove any contaminated clothing and rinse the affected area for 15 minutes using the eyewash, safety shower, or sink. Notify instructor, advisor, or lab manager. Seek medical attention as necessary.
9. In case of accidental ingestion, notify instructor, advisor, or lab manager immediately and call **campus police X7070 (203-932-7070)** who will call and coordinate emergency medical services (911). The nearest available supervisor must ready the SDS for emergency personnel on arrival.

Equipment:

1. Use equipment only for its designed purpose.
2. Do not leave equipment (e.g. hot plate, centrifuge, etc.) unattended while it operates.
3. Do not use broken or malfunctioning equipment, report damage to advisor or lab manager.
4. Handle glass with care. If glassware is broken or damaged, discard it in the broken glass bin. Pick up dropped broken glass with a dustpan and brush.

Chemical Waste: Only authorized users may handle chemical waste.

1. **Never dump chemical waste of any kind down the drain.**
2. Appropriate empty containers are available for disposal of chemicals in Room 412.
3. You may reuse an empty chemical stock bottle as a waste bottle:
 - a. If the original chemical was *non-hazardous*
 - i. Triple rinse the container and wait until completely dry.
 - ii. Remove original label and replace with the appropriate waste label or write "Empty Bottle."
 - b. If the original chemical was *hazardous*
 - i. Do not rinse the container.

- ii. Fill only with waste that is compatible with the original chemical (ask if you are unsure).
 - iii. Remove original label and replace with the appropriate waste label, include the name of the original chemical on the label.
4. Waste containers should be inspected for damage before use and caps should fit tightly.
5. Do not use laboratory bottles with ground glass stoppers.
6. **Never mix waste types – keep acids, bases, flammables, and oxidizers separate!**
7. Waste containers must be completely closed during storage.
8. Follow the below instructions for labeling waste:
 - a. Place a “Hazardous Waste” or general waste label on the bottle– ask if unsure which.
 - b. List all components of the waste including water and % concentrations.
 - c. Do not use chemical formulas or abbreviations (e.g. write “water” not “H₂O”).
 - d. Name of lab course or room generated.
 - e. Do not date the label, this is done only by Triumvirate.
9. Waste should be stored in the laboratory Satellite Accumulation Area (SAA) in secondary containment.
10. Do not overfill waste containers, only fill up to the “shoulder” of the bottle.

Chemical Storage:

1. **Only authorized users may enter the Chemical Stockrooms.**
2. Chemicals must be stored according to the requirements outlined in its SDS.
3. **Flammables should be stored in approved flammable cabinets; acids and bases stored in cabinets and separately. Do not store hazardous chemicals on shelves.**
4. Each container should be labeled as to the date it was received and opened.
5. Chemicals that are dispensed into secondary containers should be labeled with full chemical name, date chemical was dispensed, your initials, instructor/advisor name, catalog number and chemical hazards.
6. When preparing reagents/disinfectants, label the bottles with solution name, date prepared and the person’s initials.
7. Once a chemical container is empty, it may be disposed of, or repurposed, as long as it’s in compliance with the waste disposal policy.
8. For research students: dispose of excess reagents or solutions you have dispensed into secondary containers before you finish your thesis, unless otherwise instructed by your advisor. Place chemical stocks in an area where they can be found to be used by future students or your advisor.

Contacts:

Belen Lemieux: Forensic Dept. Lab Manager, Dodd’s 421A, 203-479-4587

Peter Valentin: Forensic Dept. Chair, Dodd’s 422, 203-932-7116

Campus Police **Emergency** number: **X7070 or 203-932-7070**

Safety Agreement (Return this signature page to the Lab Manager)

Advisor / Supervisor Name or Signature: _____

Semester and Year: _____

Course Name / Number: _____

1. I have read and fully understand the rules, safety practices and regulations governing my conduct in the laboratory.
2. I have asked questions about those that are unclear.
3. I will abide by these rules and regulations for my own safety and that of others.
4. I understand that failure to follow the rules and safety practices presented in this document will result in my removal from the lab and repeat offenses may result in my suspension from the labs.

Last Name	First Name	Signature	Date