

Department of Civil
&
Environmental Engineering
The University of Connecticut

Laboratory Safety Policies and Procedures

Purpose and Statement

The purpose of the Laboratory Safety Policies and Procedures documentation is to establish a uniform repository for pertinent documents to be reviewed by incoming students and employees who wish to work in Civil and Environmental Engineering (CEE) laboratories with occupational safety, chemical and/or biological hazards. The end goal is to enhance personal (and public) Laboratory Safety, proper Chemical Handling, Waste Disposal procedures, Laboratory Etiquette, Accident and Emergency Response preparedness, and establishing Lines of Communication, so that all individuals working in, and exposed to our laboratories have a safe, productive and enjoyable lab experience.

This documentation applies to all students, faculty and staff working in teaching and research labs in the CEE department, and closely mirrors guidelines and policies set forth by UConn's Environmental Health and Safety (see www.ehs.uconn.edu).

The university community adheres to *Unauthorized Individuals in Laboratories Policy*. This policy states that the principle investigator must ensure that only authorized individuals occupy laboratories, and that appropriate personal protective equipment is available. In order for you to gain access to the department's laboratory facilities, you must read and understand this document, completing the necessary steps in Sections 1-5 of this Departmental Manual before being granted key access to CEE laboratory facilities.

Lastly, it is critical that you work in CEE's labs while actively considering your actions and impact on others, and the laboratory environment on a daily basis. All of the policies and procedures contained herein must be followed, and your willingness and cooperation to improve the quality of the lab will be monitored during your tenure here with CEE.

Good luck and enjoy!

Notes:

Unauthorized Individuals in Laboratories Policy : <http://www.ehs.uconn.edu/Chemical/chemlunauthinlabs.php>
UConn's Environmental Health and Safety: www.ehs.uconn.edu

To gain access to the department's *Laboratory Facilities*, you *must* complete the following six steps (if applicable) enumerated below, and detailed in the ensuing Sections.

1. Review UConn's **Chemical Hygiene Plan** (CHP): The CHP applies to all UConn laboratories on campus, and it is critical that you read through, and become familiar with the CHP and its applicability to your specific activities in the lab, and the laboratory infrastructure. The internet web link to UConn's CHP may be found in Section 1 of this document. Similarly, a hard copy of the CHP is located in Castleman Building, room 215. Submit the **Signature Confirmation** page.
2. Review UConn's **Laboratory Inspection Program**: The Laboratory Inspection Program applies to all UConn laboratories, and is critical for you to recognize your active role in lab upkeep, safety procedures and laboratory maintenance. Read the policy to familiarize yourself with the specific line items targeted during lab inspections. Make certain to understand the implications of the policy and your lab activities, as well as lab equipment and infrastructure. The Inspection Program outline is found in Section 2. Also, CEE conducts random internal laboratory inspections to supplement UConn's Laboratory Inspection Program. A copy of CEE's Inspection form is attached at the end of Section 2.
3. You may be required to complete one or more **Laboratory Safety Training** courses offered by UConn's Environmental Health and Safety (EH&S). Please refer to Section 3 of this manual. It is highly recommended that you sign-up for and complete your training ASAP to help ensure timely access to your lab. In addition to the EH&S training courses, you must review and complete the **Employee Safety Training Assessment Tool** (ESTA) with your assigned PI/Supervisor, and the **Workplace Hazard Assessment form** (WHA) posted in each Lab you will work in. Safety training is required.
4. Review the **Laboratory Accident and First Aid Policy** and be prepared to act quickly and responsibly when accidents occur in the lab.
5. **Meet with CEE's Laboratory Supervisor** after completing steps 1-4 above to obtain final authorization for key access to the Lab. The meeting takes 30 minutes of your time. The purpose of this meeting is to:
 - a) Verify the completion of the ESTA and review of the WHA with the hiring supervisor.
 - b) Review lab specific policies and procedures concerning safety, chemical handling and storage, waste disposal, personal protective equipment, and, use of shared space and laboratory equipment, etc.
 - c) Demonstrate knowledge of, proper/care of equipment, chemicals & supply storage room
 - d) Proficiency with dealing with Chemical and/or Biological Waste Disposal procedures.
 - e) Address any questions or concerns you may have about working in CEE laboratories
 - f) Before using specialized testing equipment, microscopes, machinery, the user must be trained by the Laboratory Supervisor, PI or fellow graduate assistant based on the discretion of the Laboratory Supervisor. You must prove competency to the Laboratory Supervisor or PI prior to gaining access to the equipment
 - g) Pass Lab Access Clearance Quiz (on lab specific policies, EH&S training & policies)
 - h) Complete the Lab Access Form for the Lab# you wish to have access to. Follow up with the PI for that Lab to make sure that they approve the Lab Access form.
6. *Date and Sign* the **Laboratory Verification Forms** indicating your acknowledgement of each of the five sections in this manual labeled Section 1-5. Additionally, it is important to become familiar with the EHS website: www.ehs.uconn.edu to monitor the presence and availability of further explanation and future documentation. We highly recommend that you sign up for the Lab Safety ListServe: <https://listserv.uconn.edu/scripts/wa.exe?A0=LABSAF-L>

Section 1: Chemical Hygiene Plan

Please review and understand UConn's *Chemical Hygiene Plan* (CHP) posted on UConn's Environmental Health and Safety's website at the link posted below. The Chemical Hygiene Plan applies to all UConn laboratories on campus, and it is critical that you read through, and become familiar with the CHP and its applicability to your specific activities in the CEE Laboratories.

The CHP for the University of Connecticut follows the National Research Council's general principles of Chemical Hygiene in Laboratories. The basic principles of the CHP are:

- Minimize all chemical exposures.
- Avoid underestimation of risk
- Provide adequate ventilation.
- Institute a formal safety program.
- Observe the Permissible Exposure Limits (PELs, U.S. Dept. of Labor, OSHA) and the Threshold Limit Values (TLVs, American Conference of Governmental Industrial Hygienists).

An up-to-date electronic version of the CHP may be found on the web at the following URL:

<http://media.ehs.uconn.edu/Chemical/ChemicalHygienePlan.pdf>

Section 2: Laboratory Inspection Program

Carefully review UConn's *Laboratory Inspection Program*: The Laboratory Inspection Program applies to all UConn laboratories on campus, and it is critical that you read through and become familiar with the programs applicability to your specific CEE Laboratory. Doing so will keep your laboratory workspace in compliance with departmental, Uconn, State and Federal guidelines and regulations. The Laboratory Inspection Program is detailed on the following pages of Section 2 of this manual, and, may also be found on the web at the following URL:

<http://www.ehs.uconn.edu/Chemical/LaboratoryInspectionProgram.pdf>

A hard copy of the Laboratory Inspection Program is located in Castleman Building, room 215, room 302, or may be obtained by the Laboratory Supervisor, but may also be reviewed as the link above.

UConn
UNIVERSITY OF CONNECTICUT
Office of the Vice President for Research
Environmental Health and Safety

Policies, Programs
and Procedures



Laboratory Inspection Program

Last Reviewed Date: 10/2015
Effective Date: January 2013
Applies To: Employees, Faculty, Students, Others
For More Information contact: EHS, Chemical Health and Safety Manager at 860-486-3613

In addition to UConn's Laboratory Inspection Program, CEE conducts random internal laboratory inspections. As an employee working in a CEE laboratory, you are responsible for your assigned workspace and the general conditions of your lab as outlined in the Laboratory Inspection Program. A copy of the CEE Laboratory Inspection Safety Inspection Checklist is included at the end of this Section. Please make certain your group's individual laboratory is continually in compliance with the items listed on the CEE Laboratory Safety Inspection Checklist.

THE FOLLOWING CHECKLIST MAY BE MODIFIED FOR INDIVIDUAL LABS OR DEPARTMENTS TO SUITE THE LAB SPECIFIC HAZARDS OF SAFETY CONCERNS FOR THE LAB SPECIFIC ENVIRONMENT

**THIS CHECKLIST MAY BE MODIFIED FOR INDIVIDUAL LABS OR DEPARTMENTS TO SUITE
THE LAB SPECIFIC HAZARDS OF SAFETY CONCERNS FOR THE LAB SPECIFIC ENVIRONMENT.
INDIVIDUAL LABS ARE RESPONSIBLE FOR CONDUCTING INTERNAL BI-ANNUAL REVIEWS**

Room #: _____

Inspection Date: ____ / ____ / ____

Conducted By: _____

1. Laboratory Work Practices

		<i>Comments</i>
A. Food & beverages not consumed in lab.	Yes No	
B. Food and beverages not stored in the laboratory areas or refrigerators.	Yes No	
C. Refrigerators for food labeled "Food Only"	Yes No	
D. No chemicals in desk area.	Yes No	
E. Lab practices minimize volatilization (traps used, open-containers minimized)	Yes No	
F. Glassware is free from cracks, chips, sharp edges, and other defects.	Yes No	
G. Broken glass containers are available, in use, and not overfilled.	Yes No	
H. Used needles are stored in appropriate sharps containers	Yes No	
I. Proper tubing and fittings used on circulated water lines.	Yes No	

2. Housekeeping

		<i>Comments</i>
A. Laboratory bench top and storage areas are orderly and uncluttered.	Yes No	
B. Unused items stored safely and orderly.	Yes No	
C. Heavy objects are confined to lower shelves.	Yes No	
D. Electrical cords are in good condition and are UL listed.	Yes No	
E. Extension cords and power strips are not daisy chained and no permanent extension cords in use.	Yes No	
F. Tools and equipment are in good repair and electrically grounded.	Yes No	

3. Personal Protective Equipment

		<i>Comments</i>
A. Protective gloves are in use and matched to hazards involved.	Yes No	
B. Eye protection in use. (note: minimum protection required is splash resistant glasses.)	Yes No	
C. Lab coats are in use.	Yes No	
D. Gloves and lab coats are only worn in the laboratory and are removed before entering offices, lunchrooms, rest rooms, conference rooms, and other non-laboratory general use areas.	Yes No	
E. Appropriate protective clothing is available and in use when working with biological materials.	Yes No	

4. Hazard Communication

		<i>Comments</i>
A. Primary & secondary chemical containers are labeled with identity, hazard warnings, and expiration dates. All labels are intact.	Yes No	
B. Signs on storage areas, refrigerators, and laboratories are consistent with hazards within.	Yes No	
C. The location of MSDS's are known.	Yes No	
D. Lab safety information is available and accessible.	Yes No	
E. Chemical hygiene plan is accessible.	Yes No	

5. Chemical Storage

		<i>Comments</i>
A. All samples have proper identification. (initial - book number - page number - experiment number)	Yes No	
B. All chemicals are dated.	Yes No	
C. All containers are properly labeled with department issued bar code.	Yes No	
D. Incompatible materials are segregated.	Yes No	
E. Nitric and Acetic acid stored separate from other acids and chemicals.	Yes No	
F. Chemical storage cabinets close properly.	Yes No	
G. Liquids and flammables are stored below eye level.	Yes No	
H. Hazardous materials used/stored in the laboratory are limited to small quantities.	Yes No	
I. Hazardous waste accumulation areas used for waste only.	Yes No	
J. Unnecessary, unused, or outdated materials are removed from laboratories and chemical storage areas.	Yes No	
K. No chemical storage in fume hoods.	Yes No	
L. Fume hood sashes are kept closed when not in use.	Yes No	
M. Safety carriers are available and in use while transporting chemicals.	Yes No	

6. Flammable Liquids Storage & Handling

		<i>Comments</i>
A. Flammable liquids are stored and used away from ignition sources.	Yes No	
B. Bulk quantities of flammable liquids are stored in approved storage cabinets.	Yes No	
C. Flammables that are refrigerated are placed in explosion-proof or flammables refrigerators only?	Yes No	
D. Flammable liquid storage cabinets are properly labeled.	Yes No	
E. Flammable liquid storage cabinets close properly.	Yes No	
F. Flammables are not stored on open shelves.	Yes No	
G. Safety cans used to handle small quantities of flammable liquids are properly labeled.	Yes No	
H. Solvent waste cans are labeled properly with University issued Hazardous Waste Labels.	Yes No	
I. Nothing is stored on top of flammable cabinets.	Yes No	

7. Compressed Gas Cylinders

		Comments
A. All gas cylinders initialed by person who ordered it.	Yes No	
B. Gas cylinders are properly secured.	Yes No	
C. Cylinder caps are in place when cylinders are not in use or being moved.	Yes No	
D. Gas cylinders are transported on a cart with chains.	Yes No	
E. Gas cylinders are stored away from excessive heat.	Yes No	
F. Fuel gas cylinders are at least 20 feet away from oxygen cylinders.	Yes No	
G. Contents of gas cylinders are properly marked.	Yes No	
H. Full and empty cylinders are stored separately.	Yes No	
I. Empty gas cylinders are labeled "EMPTY" and dated.	Yes No	
J. Gas lines, piping, manifold, etc. are labeled with the identity of their contents.	Yes No	
K. Hoses, tubing, and regulators are in good working condition.	Yes No	

8. Waste Handling: Hazardous, Non-Hazardous & Biological

		Comments
A. All containers legibly labeled with the full chemical or trade name AND percentage of each chemical. <i>(note: abbreviations/formulas are not adequate)?</i>	Yes No	
B. No liquid waste is disposed of in the sinks.	Yes No	
C. Hazardous wastes have not accumulated for longer than one month in the laboratory.	Yes No	
D. Waste streams are separated as necessary: examples: Solid vs. liquid, organic vs. inorganic, halogenated vs. non-halogenated, etc...	Yes No	
E. Waste containers are appropriately tagged before placing in the Satellite Hazardous Waste Accumulation Area.	Yes No	
F. Chemical and waste containers in good condition.	Yes No	
G. Chemical and waste containers closed except during additions.	Yes No	
H. No hazardous materials near sinks or drains unless secondary containment is provided?	Yes No	
I. Biological waste is appropriately marked with a biohazard symbol.	Yes No	
J. Syringes and other sharp waste are disposed of in a proper container and placed directly into biohazard waste container.	Yes No	
K. Waste material is not allowed to accumulate on the floors, in corners or under shelves/tables in laboratories.	Yes No	

9. Walkways and Emergency Exits

		Comments
A. Aisles & exits are free from obstruction.	Yes No	
B. Exits are clearly marked.	Yes No	
C. Exits are free from obstruction.	Yes No	
D. All fire doors are kept closed.	Yes No	
E. Telephones are labeled with emergency numbers.	Yes No	

10. Safety Equipment

		<i>Comments</i>
A. Safety showers and eye wash stations are clearly labeled, and these areas are clear from obstruction.	Yes No	
B. All showers and eye wash stations are clean, covers are replaced, and in good working condition.	Yes No	
C. Fire extinguishers are available, unobstructed, and easily accessible.	Yes No	
D. Fire extinguishers are appropriate for the hazards in the work area.	Yes No	
E. Fire extinguishers are checked monthly.	Yes No	
F. First-aid supplies are available and clearly visible.	Yes No	

11. Other Labeling & Posting

		<i>Comments</i>
A. Warning signs and labels are present whenever required (e.g. carcinogen, mutagen) where chemicals are stored.	Yes No	
B. "Caution- Radioactive Material" signs are posted on doors of all authorized laboratories, and on refrigerators/freezers where materials are stored.	Yes No	
C. Biohazard symbols are posted on potentially contaminated equipment and areas.	Yes No	

12. Miscellaneous & Notes

In any items are marked "NO" above, immediate action should be taken to correct the issue. Any other specific comments should be taken into consideration when evaluating your specific lab space. Please use this form monthly to ensure your lab is in compliance with the departmental inspection program.

Violation Report

Room #: _____

Inspection Date: ____ / ____ / ____

Conducted By: _____

- -----
- Section 1:* A B C D E F G H I
- Section 2:* A B C D E F
- Section 3:* A B C D E
- Section 4:* A B C D E
- Section 5:* A B C D E F G H I J K L
M
- Section 6:* A B C D E F G H I
- Section 7:* A B C D E F G H I J K
- Section 8:* A B C D E F G H I J K
- Section 9:* A B C D E
- Section 10:* A B C D E F
- Section 11:* A B C

Comments:

Section 3: Laboratory Safety Training

You are required to complete *Laboratory Safety Training* administered by UConn's office of Environmental Health and Safety (EH&S). The following Safety Training courses are **required** if you plan to work in the Environmental Engineering laboratory. For other departmental labs, please review the Workplace Hazard Assessment (WHA) form for each lab.

- a. *General Laboratory Safety & Chemical Waste Management (required for all students, faculty and staff working in labs) – renewed annually*
- b. *Biosafety General Training (if working w/ biological media or a biological lab)*
- c. *Personal Protective Equipment (PPE) training (chemical and occupational hazards)*
- d. *Other specific training indicated below as determined by the Laboratory's WHA and ESO form (Please check with [EH&S](#))*

If you will work in other CEE labs (Concrete & Materials (FLC106-110), Soil Physics (FLC101-102), Structures Lab (FLC115-116), Geoenvironmental (FLC105), Geomatics/Surveying (FLC136) etc.), please check with the PI or your hiring supervisor to review the Workplace Hazard Assessment (WHA) and Employee Safety Orientation (ESO) for specific hazards and appropriate PPE required for Lab Access. If you will be working in the Environmental Engineering Lab Suite (FLC215-218), please fill out the [Lab Access Form](#) and see your Supervisor.

The *General Laboratory Safety* training course is REQUIRED for all individuals who wish to work in any university laboratory. If you have questions about this process, please see the Laboratory Supervisor after reviewing the WHA and ESO forms with your supervisor:

If you plan to work in any CEE lab, please see The Laboratory Safety Training checklist below which summarizes all training options offered by EH&S and the training recurrence frequency required by UCONN. You may not work in CEE's Laboratories until you have completed the required safety training courses indicated above.

Please visit the following link to view Laboratory Safety Training checklist:

<https://ehs.uconn.edu/training/training-common-questions/>

Some safety training courses require Annual Re-training for continued lab access. Please check with your Supervisor and/or EH&S to determine if you are required to sign up for and complete an annual refresher for each appropriate training course.

Retraining courses are available on HuskyCT. Upon completion of retraining, please contact the Laboratory Supervisor so that your lab access can be extended beyond the expiration date of your initial General Lab Safety and Chemical Waste Management training.

When completing your annual refresher training, please forward the completed training certificate to the Laboratory Supervisor so it can be added to your personnel file. Please do so within 2 weeks of expiration of your Laboratory Access so there is no lapse in access.

Please reviewed the CEE LABORATORY ACCESS and KEY DISTRIBUTION Policy for further details.

Laboratory Safety Training Checklist

ACTIVITY	TRAINING REQUIREMENTS	TRAINING FREQUENCY*
Are chemicals present?	<u>Laboratory Safety and Chemical Waste Management</u>	Annual
Are you working in a radioactive materials lab?	<u>Radiation Safety Non-user</u> <u>Radiation Safety User</u>	Initial, then as needed Initial, then every 2 years
Are human materials (blood, body fluids, cell lines) used?	<u>Bloodborne Pathogens</u> <u>Bloodborne Pathogens Retraining</u>	Initial, then annual retraining Annual
Are biological agents used?	<u>General Biological Safety</u>	Annual
Are animals (living or non-living) used?	<u>General Biological Safety in Animal Research</u>	Once, then as needed
Are laser devices used?	<u>Laser Safety</u>	Once, then as needed
Are x-ray devices used?	<u>X-ray Safety</u>	Once, then as needed
Does the lab ship biological agents ?	<u>Shipping and Transportation of Biological Materials</u>	Once, then every 2 years
Are Select Biological Agents possessed, used, stored or other wise accessed?	Select Agent Training- Contact the <u>Biological Safety Officer</u>	Initial, then every year
Is this a Biological Safety Level 3 (BSL3) facility?	BSL3 Training-Contact the <u>Biological Safety Officer</u>	Initial, then every 2 years

Visit: <http://ehsapps.uconn.edu/training/schedule/AllTrainingSchedule.php> to arrange a training class at your convenience. You will not be granted key to enter the laboratory prior to completing the required training courses. Contact Environmental Health & Safety or Jon Drasdis, Laboratory Supervisor, for information.

****Please bring verification forms with you to EH&S training course to be signed by the INSTRUCTOR.****

Section 4: Laboratory Accident and First Aid Policy

Please review the policy summarized on the following pages. The *Laboratory Accident and First Aid Policy* outline below may also be found on the web at the following URL:

<https://ehs.uconn.edu/emergency/lab-accidentfirst-aid-information/>

The above-referenced document is posted at the end of this section for your review.

Please note, in the event of a laboratory chemical spill or accident, the appropriate individual's must be contact regardless of initial apparent severity. It is always better to be safe than sorry.

Incident Reports

REPORT ALL LAB ACCIDENTS to the CEE MAIN OFFICE and the Laboratory Supervisor ASAP so a INCIDENT FORM can be completed.

First Report of Injury is for your protection. The electronic form may be found [here](#). DAS First Report of Injury.

DAS First Report of Injury WC 207

Reference No:	Central Office use only: Incident No:
	Claim No:

The Supervisor must complete this form with the injured worker and then forward it along with the balance of the claim package to the Workers' Compensation Unit within 24 hours.

1. Agency/Location Code UOC67000		2. Division/Region		
3. SSN	4. Employee Number	5. Name of Injured Worker (First) (Last) (MI)		
6. Home Address (City or Town) (State) (Zip)		7. Home Telephone	8. Date of Birth	9. Sex
10. Job Classification		11. Date of Hire	12. Date of Incident	13. Time of Incident
14. Time Employer Notified	15. Date Employer Notified	16. Was Injury Fatal? YES NO		17. Date of Fatality
18. How Did the Injury Occur?				
19. Type of Injury		20. Body Part(s) Affected		21. Category of Illness or Injury
22. Did Injury Occur on Employer Premises? <input type="checkbox"/> YES <input type="checkbox"/> NO		23. Location Injury Occured		
24. Injured Worker Seeking Medical Treatment <input type="checkbox"/> YES <input type="checkbox"/> NO If yes complete question 25		25. Medical Care Provided By: (Physician Name and Address)		
26. Were There Any Witnesses to the Injury? (If yes, give name, address and phone.)				
27. To Whom Was Injury Reported? (Name) (Title)				

28. SUPERVISOR CONTACT INFO Please print	Name:
	Work Phone:
	Best Time to Contact:

I HAVE REVIEWED THE ABOVE FORM FOR COMPLETENESS

29. Signature of Supervisor (or other Designated Authority)

SUPERVISORS REPORT ALL INJURIES - CALL 1-800-828-2717
white agency copy yellow agency copy pink employee copy

PRINT

CLEAR

Laboratory Accident and First Aid Policy

If an accident in the lab occurs, please notify someone ASAP (no matter how severe the accident or injury may seem at the time). Contact the Laboratory Supervisor (or closest individual working in lab). In the event the Laboratory Supervisor is not available, contact Administrative Staff in the CEE Main office (6-4018). Report immediately to Student Health Services (SHS).

Student Health Services extn. 6-4700

<http://www.shs.uconn.edu/>

- 1) Test plumbed eyewashes weekly; keep a log.
- 2) Remove chemical bottles from work area of Facilities personnel working in laboratories.
- 3) Stock first aid kits with Band-Aids, 4X4 gauze, roller bandages and ace bandages (no creams, ointments, etc.); report to Student Health Services (SHS) after first aid has been administered.
- 4) Bypass Student Health Services and call 911 for serious injuries and true emergencies (fires, explosions, major spills, etc.)
- 5) For Bleeding and Wound Care
 - a) Wear clean gloves.
 - b) Cover area with gauze (or clean paper towels).
 - c) Apply pressure to bleeding area -- have person sit or lie down.
 - d) If wound is large or person is dizzy or weak, call 911 to transport person to SHS or Emergency Room.
- 6) Burns -- Heat/Chemical
 - a) Heat burns: -- run cool water over area for 5 minutes, then report to SHS; if burn area is large, cover with a cool, wet cloth and call 911.
 - b) Chemical burns (acid or alkaline) - flush with large amounts of cool running water for 15 minutes. For small area, report to SHS. For larger area or if person is weak or dizzy, call 911 for transport.
- 7) Eye Splash Chemical

Flush with lukewarm (body temperature) running water; turn head side to side and have water run across both eyes. Flush eyes for at least 15 minutes before going for further treatment at SHS or Emergency Room.

- 8) Eye - Foreign Body (dust or metal, paint, wood chips)
 - . Cover or close eye.

For all injuries, Report to SHS for evaluation (Infirmary).

Student Health Services
234 Glenbrook Road, Unit 2011
Storrs, CT 06269-2011
Phone: 860-486-4700
Fax: 860-486-5300

DO NOT POUR ANY CHEMICALS DOWN SINK DRAINS OR SEWER GRATES.
Call EH&S (6-3613) for a NO-CHARGE chemical waste pickup.

Section 5: Laboratory Specific Policies

After successfully completed steps 1-4 above, you are required to meet with CEE's Laboratory Supervisor before obtaining final authorization for Laboratory Access for the CEE Laboratory you will be working in. This meeting should take less than 1-hour of your time. The purpose of this meeting is to:

- ❖ Review specific hazards in the lab you may encounter, and how to deal with them (review the WHA and ESTA form with your supervisor)
- ❖ Review lab specific policies and procedures concerning occupational safety, emergency response, chemical handling and storage, waste disposal, personal protective equipment, and, use of shared space and laboratory equipment, etc.
- ❖ Use and care of Chemical Storage & Supply Storage Room
- ❖ Demonstrate your proficiency with dealing with Occupational hazards, Chemical and/or Biological Waste Disposal procedures
- ❖ Address any questions or concerns you may have about working in CEE laboratories. Hazards are laboratory specific so it is important to work closely with other students, the PI and the Laboratory Supervisor.
- ❖ Before using specialized testing equipment, presses, furnaces, load frames, mixers, microscopes, machinery, meters, the user must be trained by either the Laboratory Supervisor, Principle Investigator (PI) or fellow graduate assistant based on the discretion of the Laboratory Supervisor. You must prove competency to the Laboratory Supervisor or PI prior to gaining access to the equipment.
- ❖ Laboratory Access Clearance Quiz (students only)

Chemical Waste Pick-up

If you have Chemical, Biological, Radioactive, etc., waste that needs to be disposed of. Note: Once you are done with a specific project, you should dispose of all waste generate. CEE Labs should not be used as storage areas for samples or waste under any circumstances. Please note: many common waste streams are actually chemical in nature, so careful attention should be paid to a products (or wastes) MSDS and proper handling and disposal procedures. If you have questions, please contact the Laboratory Supervisor or EH&S.

Chemical Waste Pick-up at the University of Connecticut provides laboratory users a painless method of removing generated chemical waste from the laboratory setting with minimal effort. Once sufficient waste is generated, properly handled, packaged and labeled, please contact EH&S Chemical Waste Pick-up by using the following on-line form:

<http://ehsapps.uconn.edu/cwc/securereq/request.php>

A screen shot of the above link is depicted below. Here, you will see that you can quickly and easily indicate the items and location of chemical waste you wish to have removed by EHS. Also, there is an area to re-order additional chemical waste supply containers and labels, free of charge.

Complete the on-line form or call 486-3613 to arrange a pick-up. Please plan to make arrangements approximately 1 week in advance. Waste may be temporarily stored in the appropriate Satellite Accumulation area in Castleman 218, 215A, 105, 108, 112 and 116 until pick-up. All waste must be properly labeled and packaged prior to pick-up. You must be present when your waste is picked up from the laboratory.

Chemical Waste Pickup

Please complete all sections that apply. Fields marked with * are required.

Click here to submit your request:

For assistance with this form and questions about chemical waste pickup or supply delivery, call 486-3613.

Pickups are Mondays, Wednesdays, and Fridays

Contact Name*:	<input type="text"/>
Campus*:	<input type="text" value="Storrs Campus"/>
Department:	<input type="text"/>
Building*:	<input type="text"/>
Room Number:	<input type="text"/>
Phone Number*:	<input type="text"/>
Email*:	<input type="text"/>
Description: Number and size of Containers ready for pickup / Comments	<input type="text"/>
Replacement Containers:	
# of 5-gallon Containers:	<input type="text" value="0"/>
# of 55-gallon Containers:	<input type="text" value="0"/>
<input type="checkbox"/> Hazardous Waste Stickers	
<input type="checkbox"/> Hazardous Waste Tags	

Biological Waste Pick-up

Similarly, generated biological wastes must be properly packaged, labeled and set aside in the Satellite Waste Storage area in Castleman 215A, 105, and FLC218 prior to submitting the following form to EHS for Waste Pick-up:

<http://ehsapps.uconn.edu/bwc/request.php>

A screen shot of the Biological Waste Pick-up and supplies reorder form is depicted below. Please remember that the labels for biological waste are different than those labels used for Chemical Waste. If you do not use the correct labels, your waste will not be picked up.

Please complete all sections that apply. Fields marked with * are required.

Click here to submit your request:

For assistance with this form and questions about biological waste pickup or supply delivery, call 486-3613. Pickups are Tuesdays and Thursdays

Name*:	<input type="text"/>
Building and Room Number*:	<input type="text"/>
Phone Number*:	<input type="text"/>
<u>To be picked up:</u>	
Number of large (4.0) boxes:	<input type="text"/>
Number of small (2.2) boxes:	<input type="text"/>
Number of unboxed sharps containers:	<input type="text"/>
<u>To be delivered:</u>	
Number of large (4.0) boxes:	<input type="text"/>
Number of small (2.2) boxes:	<input type="text"/>
Number of 7.5 gallon A sharps containers:	<input type="text"/> (14827105) Fisherbrand
Number of 2 gallon B sharps containers :	<input type="text"/> (8970) Kendall
Number of 5 quart E sharps containers :	<input type="text"/> (8950SA) Kendall
Number of 1 quart F sharps containers :	<input type="text"/> (8900SA) Kendall
Number of 2 liter H sharps containers :	<input type="text"/> (4127) Sharpsafe
Number of 8 gallon P sharps containers :	<input type="text"/> (8980) Kendall
<input type="checkbox"/> Biological Waste Labels	

Improperly labeling or packaging biological waste is strictly prohibited. EH&S also offers the following Sharps containers (depicted below) at your request at the above-indicated link:

Sharps Containers Available from Biological Health & Safety



Accommodates large serological pipettes



Bench top unit accommodates larger syringes and Pasteur pipettes



E,F,H are smaller bench top units that accommodate small syringes, slides and razor blades



Accommodates large serological pipettes

- A. Fisherbrand 7.5 Gallon
- B. Sage 2 Gallon
- E. Sage 5 Quart
- F. Kendall 1 Quart
- H. Sharpsafe 2 Quart
- P. Sage 8 Gallon

Order sharps containers at
<http://www.ehs.uconn.edu/bwc/request.php>

General Comments about Biological Health and Safety

UConn's Biological Health & Safety Programs have two areas of focus: Biological Safety and Public Health. The aim of biological safety staff is to recognize and evaluate the occupational and laboratory risks associated with the use, storage or disposal of biological agents such as bacteria, viruses and fungi. The program is designed to introduce and recommend procedures, practices, equipment and facility design, promoting contamination control, agent containment and risk reduction. Additionally, the programs assures University compliance with OSHA, CDC/HHS, NIH/HHS, DPH, FDA, DEP/EPA, USDA/APHIS, DOD, DOC, DOT and USPS regulations. The Public Health programs are designed to facilitated protection of the public health of the University community and visitors from environmental hazards (biological, chemical, radioactive and physical) associated with food and water and general hygiene by assuring the appropriate DEP, OSHA, Department of Consumer Protection (DCP), FDA, Public Health code and University policy regulations are followed.

EH&S offers a Biological Waste Guide which may be found at the following link:

<https://ehs.uconn.edu/regulated-waste-management/biological-waste-guide/>

If you work in a lab which generates biological waste, you must carefully read the guide.

Signed Verification Forms

Please complete the forms on the following pages *after* you completed each of the previous five (5) steps in Sections 1-5. When you complete each step, please make a copy of the verification form for your records and submit the original to the Laboratory Supervisor. Please complete all Lab Access forms and the Verifications forms before meeting with the Laboratory Supervisor.

**** Please note:** when you attend an EHS training course, it is useful to bring this manual with you to have the following forms signed by the course instructor, indicating you have taken the appropriate EHS training course.

**The Department of Civil & Environmental Engineering
Chemical & Biological Laboratory Safety Policies and Procedures**

**Acknowledgement Verification Forms
1 of 5**

I verify that I, _____ have read and fully understand the
(print name)
University of Connecticut's Chemical Hygiene Plan provided by Environmental Health
& Safety. I hereby agree to follow these guidelines while working in the CEE Laboratories.

(sign)

(date)

**The Department of Civil & Environmental Engineering
Chemical & Biological Laboratory Safety Policies and Procedures**

**Acknowledgement Verification Forms
2 of 5**

I verify that I, _____ have read and fully understand the
(print name)
University of Connecticut's Laboratory Inspection Program provided by Environmental
Health and Safety. I hereby agree to follow these guidelines while working in the CEE
Laboratories.

(sign)

(date)

**The Department of Civil & Environmental Engineering
Chemical & Biological Laboratory Safety Policies and Procedures**

**Acknowledgement Verification Forms
3 of 5**

I _____ verify that _____
(Instructor - print name) (student name - print)

has taken and successfully passed the EH&S Laboratory Safety Training courses required by the University of Connecticut for the above-named student to work in university laboratories.

I have registered and successfully completed the following Laboratory Safety Training Courses as required per the completed WHA and ESO forms for my research/work related activities in the CEE laboratories (*instructor initials below*):

❖ [Lab Safety & Chemical Waste Management](#) _____ _____
Initial Date Trained

❖ [Biosafety General Training](#) _____ _____
Initial Date Trained

❖ [“other” required Training](#) (if necessary, as determined by the WHA/ESTA form or Lab PI)

_____ _____ _____
Course Name Initial Date Trained

_____ _____ _____
Course Name Initial Date Trained

Student verifies above-indicated training courses have been successfully completed

(student sign)

(date)

**The Department of Civil & Environmental Engineering
Chemical & Biological Laboratory Safety Policies and Procedures**

**Acknowledgement Verification Forms
4 of 5**

I verify that I, _____ have read and fully understand the
(print name)
LabAccident/First Aid Information sheet provided by Environmental Health and Safety. I
hereby agree to follow these guidelines, safety procedures and reporting procedure while
working in CEE Laboratories.

(sign)

(date)

**The Department of Civil & Environmental Engineering
Chemical & Biological Laboratory Safety Policies and Procedures**

**Acknowledgement Verification Forms
5 of 5**

I verify that I, _____ have met with the CEE Laboratory
(print student name)
Supervisor, and fully understand all policies and procedures contained in this manual and Uconn
EH&S policies, and agree to follow all rules and regulations while working in CEE Laboratories.

(sign)

(date)

To be completed by the Laboratory Supervisor:

_____, the above-named candidate has meet all the formal
(print student name)

requirements in Sections 1-4 of this document, and has successfully passed the Laboratory Quiz,
demonstrating a thorough knowledge of CEE's Laboratory Safety Policies and Procedures manual.

(LS sign)

(date)
