CEOE SAFETY PROGRAM
ORIENTATION AND TRAINING - 2011

. . . . . . WELCOME. . . . . .

Dr. George W. Luther, III
Maxwell P. and Mildred H. Harrington Professor of Marine Studies
Cannon Lab 218, Lewes
Preliminary Right-To-Know (RTK) Safety Training and Chemical Hygiene Safety (CHP) Training

Jane J. Frank, CHMM, Newark xt 8288
University of Delaware Chemical Hygiene Officer  janejf@udel.edu

Forms to be signed after specific training from your advisor

Important CEOE phone numbers and e-mail addresses

School of Marine Science and Policy
Lewes Safety chair: Dr. George Luther (xt 4208)  luther@udel.edu
Lewes Safety Vice Chair: Mr. Joseph Scudlark (xt 4300)  scudlark@udel.edu

Department of Geological Sciences - Newark
Safety Chair: Dr. John Wehmiller (xt 2926)  jwehm@udel.edu

Department of Geography - Newark
Chairperson: Dr. Tracy DeLiberty (xt 4084)  tracyd@udel.edu

All extensions are for where the individuals are located. When calling the other campus dial 55 then the extension.
The **Mission** of the Department of Environmental Health and Safety (EHS) is to maintain a safe and healthful campus environment in concert with the mission of the institution while ensuring compliance with applicable federal, state and local regulations.

EHS is responsible for many aspects of safety such as radiation, chemical, biological, fire, environmental, waste management, etc.
Environmental Health & Safety Web Page

EHS has developed an extensive web page which is maintained and updated almost daily. It was designed to hold all of our manuals, forms, procedures, and reference materials to allow you to find everything you need to work safely and in compliance with regulations. Please feel free to contact the EHS office in addition to visiting the web site.

EHS Web Page:  www.udel.edu/ehs

For field work, Geological Sciences and the School of Marine Science and Policy have information on their pages.
CEOE web page

http://www.ceoe.udel.edu/EHS/

Field safety tips

Links to all departments are also on the left but some links are cutoff
U of D Safety Policies

• In addition to regulations issued by the United States Nuclear Regulatory Commission (USNRC), Occupational Safety and Health Administration (OSHA), National Fire Protection Agency (NFPA), Environmental Protection Agency (EPA) and other federal, state and local agencies, the University has approximately 50 safety policies which employees, students and visitors must abide by. They can be found on the web site listed below and are linked to the EHS web page.

• Safety Policies: http://www.udel.edu/ExecVP/
Chemical Hygiene Plan (CHP)

- OSHA Laboratory Standard CFR 1910.1450

- Applies to all research and teaching facilities

- Maintains that exposures must stay below the established exposure limits which may be achieved by the implementation of the CHP

- Must have provisions for training, medical consultation, hazard identification, respirator use and record keeping

- Requirement for researchers to receive task and chemical specific training. This orientation only provides an overview. Advisors perform specific and detailed training.

No department shall discharge anyone attempting to comply with policies and procedures
What is a hazardous chemical?

Any element, chemical compound or mixture of elements and/or chemical compounds which is a *physical or health hazard*

Does not include drugs or products intended for human consumption

Examples of hazardous chemicals and materials include many household products including bleach, ammonia, acetone as well as ink and toner cartridges
Material Safety Data Sheets (MSDS)

- Material Safety Data Sheets (MSDSs) contain hazard and safe-handling information for chemicals.

- Every chemical shipped must have a MSDS. Purchaser shall request MSDS from manufacturers.

- These should be available in the lab – yellow loose leaf book.

- DEHS is the central repository. Check web page. [http://www.udel.edu/EHS/msds/msds.html](http://www.udel.edu/EHS/msds/msds.html)

- In Lewes, the library and Marine Operations Building (MOB) have many MSDS on hand as hardcopies.
Important MSDS Information

- MSDSs contain up to 16 sections of information that identify the chemical, including:
  - Chemical names and synonyms.
  - Physical properties (appearance, odor, boiling point, etc.)
  - Proper Personal Protective Equipment.
  - Spill response information.
  - Health Hazards
  - Acute and chronic exposure symptoms.
  - Incompatibility information and storage recommendations and requirements.
- Proper Handling, cleanup and disposal information
Chemical Labeling

• All containers must be labeled, regardless of the container size or the quantity of the substance.

• Do Not use any chemical that is not properly labeled.

• USE COMMON CHEMICAL NAME ONLY!

Chemical Purchase

• When purchasing chemicals, designate to the company a laboratory (NOT AN OFFICE) for delivery.

• Date all chemicals as received - put date on the bottle label. Inventory all chemicals!
Safety Committees

One University policy establishes safety committees or contacts for all University departments. Safety committees are found in departments where hazardous work is performed, such as Chemical Engineering. Other departments, such as Geography, have safety contacts. We currently have 49 safety committees whose memberships range from 2 to 20 persons.
Safety Committee Responsibilities

- Safety committees assist their department with implementation of the University Safety Program. They also promote safe behavior in general by practicing it and encouraging others.

Specific Responsibilities:
- Facilitate Safety Training and Orientation
- Coordinate Illness/Injury Reports/Investigation
- Perform Facility Inspections / Fire Drills
- Emergency Training
- Safety Promotion
- Chemical Hygiene Reports
- Job Hazard Analysis
Safety Education

Environmental Health and Safety places much emphasis and energy on safety education. We believe it is the responsibility of the institution to teach safe work practices in addition to the discipline you will study. *Future employers will expect that you have learned how to protect yourself as well as comply with safety regulations.*
Education Programs from EHS and the safety committees

+ Web: Classes, Power-Points, DVDs and Videos
+ Department Training Classes
+ Individual Instruction Sessions
+ EHS Training Classes
  - Employee/Student Safety
  - Home / Personal Safety

EHS 2011 Training Schedule and Registration can be found at
http://www.udel.edu/ehs/ehstrainsched99.html
Computer Ergonomics

+ Educational classes
+ Workstation evaluations
  - Ergosmart
  - Personal visits
+ Videos for review
Emergencies

- During the course of your time here, you may be involved in an emergency. The most important action you can take is to summon help immediately. The number to call is 911. Public Safety serves as an emergency dispatch center and is prepared to respond to all emergencies. EHS should be called for emergencies such as chemical or radiological spills that are not major.

Contacts:

On the Newark Campus call Public Safety at 911, Fire/Police/Ambulance

On the Georgetown, Lewes, and Wilmington Campuses call 9-911 for Fire/Police/Ambulance

Call EHS at xt 8475

The Public Safety Communications Center
Emergency Phones

• Throughout campus you will find emergency phones. These phones will automatically dial Public Safety when the receiver is picked up or a button is pushed. All phones on campus have computer programmed addresses. The location of the caller/phone is displayed on the computer screen when the call is received at Public Safety. This allows Public Safety to know your location and respond as quickly as possible.

Exterior phones

Interior phones found in hallways and lobby areas
Fire Drills and Building Evacuations:

Most departments hold fire drills at least once per year. These drills are performed to educate occupants on how to evacuate the buildings as well as to test the fire warning and reporting equipment.

+ Everyone evacuates - 200 feet - the parking area is best
+ Gather keys, coats, and purse when leaving
+ Shut doors and windows behind you
+ Tell others to leave
+ Provide information to emergency responders
+ Do not re-enter until told to do so

CEOE will send specific procedures to all personnel shortly – Please Post
Fire Extinguishers:

+ Only use if you are trained
+ Use to help you evacuate
+ Use to extinguish a small, friendly fire
+ Know where they are located

One of our films will show fire extinguisher procedures

Fire extinguishers in LEWES- report use to Bruce Campbell (xt 4322)
Fire extinguishers in NEWARK- report use to EHS (xt 8475)
Power Outages

- On occasion, University buildings may experience power outages. Laboratory fume hoods will, in general, not be powered during an outage. This means that hazardous materials may be released into the building environment. Remember that emergency lighting is designed to allow for safe evacuation, not continued occupancy. Be sure you have enough natural light to allow safe occupancy and evacuation for up to one hour if you stay.

- Power Outages:
  - All lab buildings evacuate immediately.
  - Basement and interior areas evacuate immediately.
  - Non-lab buildings evacuate after one-hour.
  - Emergency battery lighting may only last for 20 minutes.
  - For more information visit the EHS web page on power outages: [http://www.udel.edu/ehs/powerout.html](http://www.udel.edu/ehs/powerout.html)
Injury/Illness:

+ All injuries/illnesses must be reported/ investigated
+ Forms must be completed and distributed
+ Medical attention?
  - 911 for Public Safety in Newark: In Lewes dial 9-911
  - Student Health Services  xt. 2226
  - Christiana Care Occupational Health Services (302) 428-4250
First Aid Concerns

+ Only trained individuals provide first aid
+ Assist hurt individual to treat self
+ Call 911 for assistance: In Lewes 9-911
+ Call EHS at xt 8475 for information on training

Automatic External Defibrillator (AED) devices are in all police cars and at various campus locations (including outside Cannon Lab 104) –
go to http://www.udel.edu/ehs/AED.html
First Aid Kits - in hallways and in each laboratory obtained from EHS.

In Lewes, report use of hallway first aid kits to Glenn Williams at Campus security (xt 4333) so that items used can be restocked via EHS.

Laboratory first aid kits are restocked by the lab supervisor for each research group via EHS.

Chemical Spills - Lewes

Chemical clean up kits are in LEWES hallways. Report use to George Luther (xt. 4208)
Facility Safety Equipment

University policy has designated certain basic safety equipment be provided to each laboratory.

Eye wash/safety showers

Fume hoods/biosafety cabinets

Storage cabinets
• PPE is used to protect you from chemical and physical hazards.

• Areas of PPE include:
  – Eye and Face Protection: (i.e. Safety Glasses, Goggles, and Face Shields)
  – Hand Protection: (i.e. Proper Gloves)
  – Body Protection: (i.e. Aprons and Lab Coats)
  – Foot Protection: (i.e. Safety Shoes)
  – Head protection: (i.e. hard hats)

For field work other PPE items may be necessary: see SMSP and Geology web pages
Waste Management

Broken Clean Glass
Infectious waste
Radioactive waste
Chemical waste (includes ink cartridges)
Uncontaminated solid waste includes electronics, computers, monitors

Dispose of waste properly - Guides have been provided by EHS and their contact is Jane J. Frank (55-8288); e-mail [jj_frank@facilities.udel.edu] or for emergencies contact EHS at x 8475.

Use the form at the URL http://www.udel.edu/EHS/formindex.html
Proper Waste Disposal - Overview

- Anyone who generates chemical waste must attend a chemical waste disposal training session. For a list of scheduled trainings, see http://www.udel.edu/ehs/ehstrainsched99.html

- No chemicals can be disposed of via the sanitary sewer (sink drain) or normal solid waste (regular trash). University of Delaware Policy 7-18 dictates that substances be disposed of in accordance with procedures established by EHS.

Examples of common waste generated by anyone even at home

<table>
<thead>
<tr>
<th>Household Cleaners</th>
<th>Medical Waste</th>
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<tbody>
<tr>
<td></td>
<td>Razor Blades</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Needles and Sharps Container</th>
<th>Broken Glass</th>
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<tbody>
<tr>
<td></td>
<td>Broken Coffee Mug</td>
</tr>
<tr>
<td></td>
<td>Toner Cartridges</td>
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Information Sources http://www.udel.edu/EHS


HazMatShipping/Transportation – http://www.udel.edu/EHS/transhazmatmat.html

• Chemical Hygiene Plan – http://www.udel.edu/EHS/chemhygieneplan.pdf
Also http://www.udel.edu/EHS/chemindex.html

• Respiratory Protection Program – http://www.udel.edu/EHS/respiratory.html

• Lab Inspection Program – http://www.udel.edu/EHS/chplabinspct.html

• Lab Ventilation Program – http://www.udel.edu/EHS/ventilation/fumehood.html

• Biological Safety - http://www.udel.edu/ehs/ehs/bioehs.html

Think SAFETY!

Don't Learn It By ACCIDENT!