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1. Check The Calendar - Mark YOURS!
Several items/events of note are on the UNL and/or Environmental Health & Safety (EHS) calendar. Now is the time to put those of relevance to your work tasks into YOUR calendar.

Dates and times for EHS INSTRUCTOR-LED TRAINING COURSES offered October through December are posted on the EHS web site as “Upcoming Events” on the right hand side of the home page (you may need to scroll down). Courses include: **Radiation Safety** (2 sessions required), **X-Ray Safety Training, IATA/DOT** (for those who ship dangerous goods), **Bloodborne Pathogens**, and **Injury & Illness Prevention Plan & Emergency Preparedness**. Instructor-led **Chemical Safety** training can be taken at the same time as Injury & Illness Prevention Plan & Emergency Preparedness session upon request.

On October 12, 2011, EHS and the Office of Research and Economic Development will host a **LABORATORY SAFETY COLLOQUIUM** with Scott Batcheller, Sigma Aldrich Chemistry R&D, providing guidelines on “Safe Handling: Highly Toxic Chemicals, Reproductive Toxins (Mutagens & Teratogens), and Biologically-derived Toxins”. Three sessions are offered for attendee scheduling convenience. Pre-registration is not required. Those using or likely to be exposed to chemicals such as chloroform, formaldehyde, ethidium bromide, acetonitrile, benzene, sodium azide, osmium/arsenic/cadmium salts, aflatoxin, T-2 toxin, Diacetoxyscirpeno, etc. should attend.

UNL Procurement Services is sponsoring a **SUPPLIER SHOWCASE** again this year, to be held Tuesday, October 18, 2011, from 10:00 a.m. – 3:00 p.m. in the City Union. This event features representatives and product displays from over 40 University approved suppliers featuring a variety of products, services, and technologies. This is a great opportunity to:

- Meet with suppliers in a time efficient way
- Build upon existing relationships and create new connections
- Discover industry trends and experience what’s new in the marketplace
- Network and share ideas
Chancellor’s University Safety Committee (CUSC) members will host a booth offering information on safety resources at UNL. Attendees will be able to take the two web-based training modules required for all who get a UNL paycheck, *Injury and Illness Prevention Plan* and *Emergency Preparedness*, at computers on site.

Resources:
- EHS Upcoming Events [http://events.unl.edu/ehs/upcoming/](http://events.unl.edu/ehs/upcoming/)
- EHS/Office of Research & Economic Development Laboratory Safety Colloquium [http://ehs.unl.edu/training/Colloquium/](http://ehs.unl.edu/training/Colloquium/)

2. Are YOU coming?

The Chancellor’s University Safety Committee (CUSC) October 18, 2011, meeting will be the fall Open Forum meeting. Twice a year the CUSC holds an Open Forum during their regular quarterly meeting. The campus community is especially encouraged at these times to attend, share concerns, or just observe the workings of the CUSC.

The CUSC is a UNL committee established to assist the Chancellor by making recommendations on methods to reduce safety hazards at UNL. The campus community may contact the CUSC Chair at any time with safety questions or concerns and attend quarterly meetings. The CUSC charter, as well as links to CUSC Chair, upcoming Agenda, previous meeting Minutes and more, are available online ([http://ehs.unl.edu/committees/#cusc](http://ehs.unl.edu/committees/#cusc)). Plan to attend from 3:00 – 4:30 p.m. at Nebraska City Union!

Resources:
- CUSC information (Meetings, Agenda, Minutes, Link to email Chair) [http://ehs.unl.edu/committees/#cusc](http://ehs.unl.edu/committees/#cusc)


The National Fire Prevention Week is October 3-9. Since 1922, Fire Prevention Week has been observed on the Sunday through Saturday period in which October 9 falls to commemorate the Great Chicago Fire, the tragic 1871 conflagration that killed more than 250 people, left 100,000 homeless, destroyed more than 17,400 structures and burned more than 2,000 acres. Also, coincidentally, the most devastating forest fire in American History, the Peshtigo Fire, also occurred on October 8th, 1871, and roared through Northeast Wisconsin, burning down 16 towns, killing 1,152 people, and scorching 1.2 million acres before it ended.

Fire safety should always begin with fire PREVENTION. EHS provides the campus community a number of fire prevention guidelines within the Safe Operating Procedure
(SOP) **Fire Safety – General Prevention and Extinguishers.** A few examples of steps you can take:

- Keep hallways, corridors, and exit areas clear of items that impede egress in an emergency (i.e., chairs, tables, boxes, equipment, etc).
- Properly store combustible items. Do not accumulate unnecessary cardboard boxes, chemicals, and paper products.
- When stacking or storing items on shelves, the top of the items must be a minimum of 18” below sprinkler head deflectors.
- Purchase only electrical equipment that is approved by a testing organization, such as Underwriters Laboratories (UL).
- Restrict use of extension cords to temporary applications and ensure that cords are rated for the intended use. Do not use extension cords in series.
- Do not overload electrical outlets.
- When using a space heater, allow a minimum of three (3) feet between the heater and combustible materials.
- Turn off the electrical and heat-producing appliances at the end of the day.
- Refrain from open flames (candles, sterno burner, incense burner, etc.) unless they are an integral part of the work activity. Do not leave open flames unattended. Do not store or used ordinary combustibles (papers, napkins, cloths, etc.) or solvents (aerosols, grease, paints) in the vicinity of open flames or hot surfaces.

Review the SOP for more ways to prevent fires in the workplace and information on types of fires, fire extinguishers, fire extinguisher use, and more. Fire prevention and what to do in case of a fire is a component of the EHS web-based training **Emergency Preparedness.** Proper selection and use of fire extinguishers is presented in the EHS web-based training **Fire Extinguishers.**

Evacuation planning is critical to emergency planning, particularly as it relates to fires. The EHS **Evacuation Planning** SOP to provides guidance related to pre-planning, training, and evacuation drills. Here are a few key points:

- Pre-planning is key to safe evacuation when/if it is necessary. Heed and practice emergency drills. Know your escape routes and designated gathering locations.
- NEVER assume that a fire alarm is signifying a drill—exit when you hear the alarm.
- On your way out, assist any mobility-impaired persons to a stairwell or other point of refuge if possible. Report their location to the emergency response personnel.
- Assemble a safe distance away from the building. Try to account for personnel known to have been in the building. Do not block driveways or areas that may be used by emergency response personnel.
- If pertinent knowledge of the fire is known, report to emergency responders and provide the information that you have.
Review fire safety information on the UNL Emergency Planning and Preparedness website. Students should review the Student section; employees should review the Faculty, Staff, Departments section. A two-page “Faculty Guidance for Incident Response” aggregates information on responses to fire and other emergencies. The website also contains an “Emergency Procedures Quick List,” a particularly valuable tool for those supervising workers or a classroom. Faculty and TAs are encouraged to review this information and share it with their students.

The Center for Campus Firewatch (CCFW) is collaborating with NFPA to observe October 2011 as **Campus Fire Safety Month**. With a new school year, questions arise about student housing and fire safety. According to information compiled by Campus Firewatch*, over 85 percent of the campus-related fire fatalities across the nation since January 2000 have occurred in off-campus housing. Four common factors in a number of these fires include:

- Lack of automatic fire sprinklers
- Missing or disabled smoke alarms
- Careless disposal of smoking materials
- Impaired judgment from alcohol consumption
- Fires originating in upholstered furniture on decks or porches

By addressing the above factors as related to their own living arrangements, students can help decrease the chances that they will be seriously injured or killed in a housing fire.

*Campus Firewatch, in publication since 2000, is a social enterprise focusing solely on campus fire safety issues. It has been a leader in raising awareness of the importance of fire safety at our nation’s campuses and a catalyst for numerous projects and efforts over the years.

Resources:

- EHS *Evacuation Planning* SOP [http://ehs.unl.edu/sop/s-emergency_planning.pdf](http://ehs.unl.edu/sop/s-emergency_planning.pdf)
- EHS web-based *Emergency Preparedness* training [http://ehs.unl.edu/onlinetraining/](http://ehs.unl.edu/onlinetraining/)
- EHS web-based *Fire Extinguisher* training [http://ehs.unl.edu/onlinetraining/](http://ehs.unl.edu/onlinetraining/)
- UNL Emergency Planning and Preparedness [http://emergency.unl.edu](http://emergency.unl.edu)
- Campus Firewatch Resources [http://www.campus-firewatch.com/resources.html](http://www.campus-firewatch.com/resources.html)
4. Ventilated Cabinets: Chemical Fume Hoods and More

The preferred option for mitigating any hazard is “engineering controls”. Engineering controls eliminate or reduce exposure to a chemical or physical hazard through the use or substitution of engineered machinery or equipment. Ventilated cabinets are engineering controls which may be found campus-wide.

Laboratories may contain more than one type of local ventilated cabinet. Each type has been designed for a specific use. It is important to understand how these systems operate and their limitations. Use of the incorrect hood/cabinet or incorrect use of a hood/cabinet will put the user and others at risk of exposure. An EHS SOP available online, Laboratory Hood/Cabinet Identification and Use, identifies the most common types of specialized laboratory local ventilation systems and addresses the correct use and operation of each.

Chemical Fume Hoods are designed to protect the worker from chemical exposure. Proper use and operation is critical to worker protection. Some chemical fume hood tips are:

- Confirm proper air flow into the hood before using. All hoods should be equipped with a monitor. In most cases, the monitor will have a digital display. On UNL-installed monitors the display corresponds with exhaust volume and should remain relatively constant. If the displayed number changes by more than 10-20%, notify UNL Building Systems Maintenance so that the hood can be checked for proper function.
- To ensure adequate containment of vapors, position all work and equipment at least 6 to 8 inches behind the fume hood sash/opening.
- Keep the sash in the lowest possible position while working in the hood; close the sash when not immediately working in the hood.
- The airfoil below the sash and the baffles at the back of the fume hood are critical to effective air flow and the containment efficiency of the hood. Be sure to keep these areas clear. Do not block them with equipment, paper towels, absorbent pads, etc. Do not adjust hood baffles.
- Place hands and arms into a fume hood only when absolutely necessary, and then use slow movements to avoid creating unnecessary air turbulence within the hood. Do not place your head in the fume hood.
- When moving the sash up or down, use slow and deliberate motions to minimize air turbulence and the potential for “spill out.”
- Keep items in the fume hood to an absolute minimum to maintain air flow and capture efficiency. Large items will typically need to be elevated so air can flow underneath and around the item.
- Do not use fume hoods as general storage locations for chemicals or equipment (with the exception of lecture bottle sized compressed gas cylinders containing highly toxic, pyrophoric, and corrosive gases, which must be stored and used in a ventilated cabinet).
Laminar Flow Hoods (Clean Benches) are designed ONLY to protect the product in the hood from environmental contamination. Laminar flow hoods or clean benches are appropriate for pouring plates or use of pathogen free cell culture. They are not designed for use with infectious, chemical, or radiological materials, since aerosols and vapors of these materials will be expelled from the cabinet.

Most Biological Safety Cabinets (BSC) are designed to protect the research product and the worker from biological materials. Biological safety cabinets are appropriate for infectious materials. They are NOT suitable for use with more than minute quantities of chemicals and/or radioactive materials. Here are a couple tips for Biological Safety Cabinet use:

- Bunsen burners must never be used in a BSC. Because BSCs recycle air, the concentration of gas in the cabinet will accumulate and significantly increase the risk of explosion. In addition, the heat produced by a Bunsen burner creates eddy currents that may disrupt the ordinary air flow and force contaminates back in to the laboratory, exposing workers to infectious materials.
- Due to the extent of information necessary, Biosafety Cabinets are covered in a separate EHS SOP, *Biosafety Cabinets*. Review this SOP if you use a Biosafety Cabinet.

Glove Boxes consist of a sealed chamber with glove ports for handling materials inside, a viewing window for observing, and transfer chamber or door for loading and unloading. An inert environment can be created in some glove boxes, making them useful for handling air-sensitive materials. Sometimes, glove boxes are used for highly toxic materials because they form a sealed barrier between the chemical and the user.

Other types of devices intended for very specific applications which do NOT provide adequate containment/protection for biological, radiological, and chemical laboratory processes:

- **Canopy hoods** are designed to remove steam, heat, or odors generated by specialized equipment such as autoclaves, ovens, steam baths, etc.
- **Ductless carbon-filtered enclosures** are not recommended for general laboratory use. Their principal of operation is based on trapping of chemical fumes and vapors in a filter with air re-circulated back into the work space.
- **Snorkel hoods** are flex ducts that can be positioned as desired. They generally aid in the removal of contaminated or irritating air from the lab area to the outside.

To ensure ventilated hoods/cabinets are working as designed, all types are inspected annually by UNL Facilities Management and Planning. FMP personnel will apply a sticker to the cabinet, which identifies the last date of inspection and when the next inspection is due.

Resources:
- EHS *Laboratory Hood/Cabinet Identification and Use* SOP  
  [http://ehs.unl.edu/sop/s-lab_hood_use.pdf](http://ehs.unl.edu/sop/s-lab_hood_use.pdf)
- EHS *Biosafety Cabinets* SOP  
  [http://ehs.unl.edu/sop/s-bio-cabinet.PDF](http://ehs.unl.edu/sop/s-bio-cabinet.PDF)
5. Revised Safe Operating Procedures

- Sewer Disposal List [http://ehs.unl.edu/sop/s-sewerdisp.pdf]

Remember...SAFETY IS AN ATTITUDE!

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