EHSI Offers 10 Hour OSHA Training at Wake Tech

The Environmental Health and Safety Institute will be offering another OSHA 10-hour safety training at Wake Tech Community College on April 16 and 17. There is no cost to attend, and all members of your community college’s safety organization are invited.

The purpose of this training is to teach college employees the specific requirements set forth in OSHA 1910 General Industry Occupational Safety Standards that apply to their workplace. Community colleges are very unique because they have so many different types of working environments. Each environment, whether it is a chemistry lab, an auto body shop or a cosmetology salon, has its own set of safety requirements that directly address the hazards present in each area. This training will cover the core OSHA standards that apply to every community college in North Carolina and will give you the tools and knowledge you need to ensure that your college’s safety program meets those standards.

Attendees will learn recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces. The following topics will be covered in the class:

- Intro To OSHA
- Machine Guarding-Grinders-Hand Tools
- Hazard Communication-Globally Harmonized System (GHS)
- Bloodborne Pathogens
- Personal Protective Equipment
- Ergonomics-Office Safety
- Walking and Working Surfaces, including Fall Protection
- Electrical Safety-Lock Out/Tag Out
- Arc Flash
- Safety and Health Programs-Safety Committees
- Intro to OSHA

EHSI Offers Arc Flash Awareness

Arc Flash update and the 2012 Edition NFPA 70E Standard

An arc flash is the dangerous explosive release of energy caused by an electrical arc due to either a phase to ground or phase to phase fault. The arc flash is a voltage breakdown of the air resulting in an arc. The explosive energy release resulting from an arcing fault can consist of heat, pressure wave, vaporized metal (plasma), molten metal and shrapnel from other parts of the exploding electrical equipment. In addition to the explosive blast caused by the fault, there is also intense radiant heat produced by the arc. Even though arc flashes are normally of short duration (0.5 second or less) the energy released is tremendous and great destruction can occur.

Electrical arcs produce some of the highest temperatures known to occur approximately 35,000°F. Clothing can be ignited from several feet away and burns can be severe as the clothing melts to the skin. All known materials vaporize at 35,000°F.

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When any material vaporizes it expands in volume (water 1,670 times, copper 67,000 times). The air blast produced when materials vaporize can spread molten metal and other materials great distances. Rapidly expanding gases, molten metal and metal plasma can produce extreme pressure and sound waves. Blast pressures waves can be 2,000 lb./ft.², lung collapse can occur at this pressure. Also sound levels as high as 140 dB at a distance of two feet from the arc blast can occur, permanent hearing loss can occur at this sound level.

The 2012 NFPA 70E discusses PPE and other protective equipment for employees working in a flash protecting boundary. Arc-rated clothing is required to comply with 2012 NFPA 70E. NC OSH recommends that employers consult consensus standards such as 2012 NFPA 70E to identify safety measures that can be used to comply with or supplement the requirements of OSHA’s standards for protecting against arc flash hazards. The 2012 NFPA 70E standard has changes from the 2009 standard that affect labels on equipment and required PPE. The label on the equipment is required to have specific information to eliminate confusion.

(1) At least one of the following:
- Available incident energy and corresponding working distance
- Minimum arc rating of clothing
- Required level of PPE
- Highest Hazard/Risk Category (HRC) for the equipment

(2) Nominal system voltage
(3) Arc flash boundary
*Exception: Labels applied prior to September 30, 2011, are acceptable if they contain the available incident energy or level of PPE.

*The method of calculating and data to support the information for the label shall be documented. An arc flash analysis would need to be done by someone competent to do the analysis. The incident energy that could be released would be listed on the equipment label in calories/centimeter squared (cal/cm²). Also based on the incident energy the level of PPE would be listed on the label. The required PPE is vastly different depending on the incident energy and the type of work being performed. As an example let’s look at a 460 volt, 30-60 amp disconnect or breaker that you need to work on with the circuit disconnected. After disconnecting and performing LOTO, verification that the circuit is disconnected must be done using testing equipment (VOM) and dressed in Hazard Risk Category 2 (CAT 2) clothing and PPE. The 2012 NFPA 70E standard requires CAT 2 clothing and PPE to have a minimum arc rating of 8 cal/cm² and to consist of the following:
- Arc rated long-sleeved shirt and long pants or Arc-rated coverall.
- Arc-rated flash suit hood or arc-rated face shield and arc-rated balaclava.
- Arc-rated jacket, parka, rainwear or hard hat liner as needed.
- Hard hat.
- Safety glasses or safety goggles.
- Hearing protection (ear canal inserts)
- Heavy duty leather gloves and with other gloves appropriate for the electrical hazard.
- Leather work shoes.
- Underwear must not be meltable; arc-rated underwear is available.

The 2012 NFPA 70E standard was released on August 11, 2011. Since arc flash is now considered a “recognized hazard” by OSHA the consensus standard 2012 NFPA 70E can be evidence that the employer acted reasonably.

A list of companies who can provide an arc flash analysis of your equipment can be forwarded to you by EHSI.
Safety Measures

Chainsaw Safety

Winter is the season that may have you using a chainsaw more than any other time. There is wood to cut for the fireplace, trees to trim, and brush to clear. Sometimes it’s just good to get outside on a cool, crisp morning and get some work done. Whether on the job or at home, chainsaws make quick work of wood cutting chores. No one wants to return to the days of hand saws and axes, but operating a chainsaw can present some safety considerations.

Before Starting

Check the cutting chain for sharpness. A dull chain will make you push harder and you could lose your balance. Make sure the chain’s tension is correct and the chain oil tank is full. Check all controls for proper operation and that all parts are tight and adjusted correctly. Fuel the saw at least 10 feet away from the cutting area and keep extra fuel stored safely away. Do not smoke when fueling and wipe off any spilled fuel from the saw before starting. Give the saw plenty of time to cool before refueling.

Starting

Do not hold the saw up in the air with one hand, while pulling the cord with the other. Place the saw on the ground to start. Prime the carburetor and pull while holding the handle firmly. If the saw doesn’t start after a few pulls, it may be flooded. After letting the fuel evaporate, try again.

Personal Protective Equipment

Wear gloves and safety glasses when operating a chainsaw. Safety toe boots are also necessary, especially when working with large blocks of wood. A hard hat with a face shield might be a good idea when cutting limbs overhead. Consider wearing cut resistant pants or chaps which are also available. Don’t forget hearing protection. Ear plugs protect your hearing from the extremely loud chainsaw engine noise which averages about 110 decibels. Exposure at this level for one minute or more puts you at risk for permanent hearing loss.

Safe Operation

Do not carry a running saw over rough, uneven terrain or while walking through brush. Before you cut, check the wood for hidden nails and rocks and dirt in the chains path. Check the operation of the chain break before you start cutting. Avoid touching the tip of the saw to the wood, which may cause a kick-back, and often leads to operator injury. Keep both hands on the saw at all times and keep solid footing too. When cutting limbs, be aware of where they will fall and that they might spring back at you after they are cut.

After Use

Allow the saw to cool completely before putting it back in its case. Before the next use, sharpen the chain if needed. Check the air filter, the bar, the chain’s tension, refill the bar oil, and clean away saw dust and chips so it will be ready for the next job when needed.

Flu Season Is Here

The National Centers for Disease Control confirms that North Carolina is one of a growing number of flu outbreak states. Doctors have diagnosed both A and B strains of influenza, which increases the chances that the virus will spread. The safest and most effective way to prevent the flu is to get vaccinated. The Centers for Disease Control recommends that everyone 6 months and older get their yearly flu vaccine. This year’s flu vaccination is supposed to be a good match for the flu strains that are circulating.

In addition to vaccination, you can prevent flu in yourself and others by:

- Covering coughs and sneezes with a tissue and then discarding the tissue promptly
- Washing hands frequently with soap and water or using hand sanitizer
- Avoiding touching your eyes, nose, and mouth.
- Getting plenty of rest, a weak-ened immune system makes you more susceptible to illness
- Staying home when you are sick
- Trying to avoid close contact with sick people

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You should also disinfect your home and workplace. Illnesses are often spread when a person touches something that is contaminated with germs and then touches their eyes, nose, or mouth. Germs can live for hours on surfaces like doorknobs, desks, and tables. There are several chemical agents that can kill the flu viruses including:
- Chlorine
- Hydrogen Peroxide
- Detergents or soaps
- Iodine-based antiseptics
- Alcohols

Flu symptoms are similar to those of the common cold but are usually more severe; they include:
- A 100°F or higher fever
- A cough and/or sore throat
- A runny or stuffy nose
- Headaches and/or body aches
- Chills
- Fatigue
- Nausea, vomiting, and/or diarrhea

An infected person can be contagious for about five days. Avoid contact with that person or objects they may have touched. If you are healthy but have been in close contact with someone who has the flu, then antiviral drugs can prevent you from getting sick. The sooner you begin treatment with an antiviral, the more effective it is in preventing the flu.

For more information visit: http://www.flu.gov/

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EHSI SafetyNet Training Schedule

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