

# Safety Manual Chapter 4

## Safety Regulations - Issue Date 4/75

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### **4-2 All Campus Facilities**

The Internal Governing Policy Number 156 CAMPUS SAFETY RESPONSIBILITIES has identified the Campus Safety Manual as the official record for Eastern Illinois University concerning the regulation that affects the University. Many codes are identified by the State of Illinois and Federal Government agencies. The University acts as their own code compliance authority to determine which building codes the University will follow for design, alteration, enlargement, repair, demolition removal, maintenance, construction, and renovation of building and grounds. A formal CODE COMPLIANCE COMMITTEE is in place to review and adopt new codes and code variances. The Code Compliance Committee will convene to review code variances, review changes in codes, and adopt new codes on a regular basis. The committee will consist of Facilities Planning and Management Director, Project Manager, Architect, and Mechanical Engineer, with representation from Business Affairs Risk Management and Safety which includes the Campus Safety Officer and the Risk Manager.

The following building codes have been adopted by Eastern Illinois University.

- International Building Code, code year 2003
- Illinois Plumbing Code, code year most current
- National Fire Protection Association {NFPA 70} Electrical Code, code year most current
- National Fire Protection Association {NFPA 101} Life Safety Code, code year 2006
- Illinois Accessibility Code, code year 1997
  
- **4-2.1 Exit Doors, Passageways**
  - **4-2.11 All fire exit doors and passageways leading to exit doors shall be kept clear for easy means of exit.**
  - **4-2.12 No exit door will be blocked, chained, or locked to prevent immediate exit at anytime.**
- **4-2.2 Posting of Emergency Procedures and Instructions**
  - **4-2.21 Instructions as to emergency procedures and evacuation plans shall be printed and posted in each room.**
- **4-2.3 Decorations**
  - **4-2.31 All decorations in public areas must be flame resistant. Natural decorations, such as cornstalk, hay, greens, straw, etc., shall not be used.**
  - **4-2.32 Aisle, hall, and corridor widths shall not be reduced in width by attaching decorations that extend or protrude into the aisle.  
No more than 50% of the window glass area in student rooms shall be covered with other than transparent or translucent material.**
- **4-2.4 Christmas Trees**
  - **4-2.41 No "live" Christmas trees shall be permitted in a student room.**
  - **4-2.42 "Live" Christmas trees will be permitted in lobbies if they are flame treated.**
  - **4-2.43 Flame treating shall be done by the Physical Plant Services. Trees must be taken to the Physical Plant and after treatment the trees shall have a tag certifying the tree has been treated.**
  - **4-2.44 When trees are purchased as "flame treated", the seller must furnish a certification of such treatment. Decorations and amount of Class D materials (paper, cloth, paperboard, plastic, etc.) and bulletin boards shall be fire resistant.**
- **4-2.5 Furniture**

All furniture purchased or acquired by the University after July 1, 1992 shall comply with appropriate state law.

### **4-3 Public Assembly Facilities**

- **4-3.01** Definition for places of assembly include, but are not limited to, all buildings or portions of buildings used for gathering together 50 or more persons in commercial places of assembly and 100 or more persons in non-commercial places of assembly. Assembly occupancies include: Theaters, Auditoriums, Conference Rooms, Assembly Halls, Gymnasiums, Ball Rooms, and Recreational Center.
- **4-3.02** In accordance with the above stated definition, the following facilities at Eastern Illinois University are included in this definition. Other facilities may be so designated as it becomes necessary.
- **4-3.03** McAfee Gym - Main, McAfee Gym - North, Lantz Arena - Main, Buzzard Auditorium, Coleman Hall Auditorium, Booth Library Auditorium, Phipps Lecture Hall, Dvorak Recital Hall, Fine Arts Theater, Play Room, Grand Ballroom, Old Ballroom, Charleston/Mattoon Room, Recreation Center.
- **4-3.04** Facilities used shall, when applicable, be governed by other policy sections as contained within this manual.
- **4-3.1 Means of Egress**
  - **4-3.11** Definition - Means of egress is a continuous and unobstructed way of exit travel from any point in a building to a public way (exterior) and consists of three separate and distinct parts:
    - **4-3.111** The way of exit access
    - **4-3.112** The exit
    - **4-3.113** The way of exit discharge
  - **4-3.12** Width and Capacity: Capacity in number of persons per 22 inches of unit width shall be 100 persons. Fractions of a unit shall not be counted, except it be 12 inches or greater, then counted only as one-half unit.
  - **4-3.13** Access: When possible, two means of egress are desirable in any room. Exits shall be readily accessible at all times. All fire exit doors and passageways leading to exit doors shall be kept clear for easy means of egress. No exit door shall be chained or locked to prevent immediate egress at any time. Ways of exits access and doors to exits shall be clearly recognizable. Hangings of drapes shall not be placed over exit doors to conceal or obscure any exit.
  - **4-3.14** Illumination: Illumination of means of egress shall be continuous during the time that the conditions of occupancy require that the means of egress be available for use.
  - **4-3.15** Exit Signs  
Every required sign designating an exit or way of exit access shall be readily visible. No decorations, furnishings, alterations, or equipment which impair visibility of an exit sign shall be permitted.
- **4-3.2 Occupant Load:**  
The capacity of a public assembly unit shall be determined by dividing the net area square foot used for assembly purpose by the divisor herein specified:  
  
Division of ten (10 sq ft) shall be used, unless/or : A divisor of sixteen (16 sq ft) shall be used where tables are used. The occupant load of an area having fixed seats shall be determined by the number of fixed seats installed and aisles shall not be used to increase the occupant load.
- **4-3.3 Seating:**  
The spacing of rows of seats from back to back shall not be less than 33 inches. Row of seats between aisles shall have not more than 14 seats. Rows of seats opening on to an aisle at one end only shall have not more than 7 seats. Seats not secured to the floor may be permitted where the fastening of seats to the floor may be impractical, provided unless fastened together there shall be not more than one (1) seat for each fifteen (15) square feet of floor space and adequate aisles to reach exits shall be maintained at all times.
- **4-3.4 Aisles:**  
Every place of public assembly which contains seats or tables shall be provided with aisles leading to exits as follows:  
  
When serving more than 60 seats, every aisle shall be not less than three (3) feet wide serving seats on one side only and not less than three (3) feet six (6) inches wide serving seats on both sides. Aisles leading to a stage to form a cross aisle, the cross aisle shall be not less than fifteen (15) feet in width.
- **4-3.5 Furnishing and Decorations:**  
See Section 5-10 4-3.52 Evacuation In the event of the sounding of a fire alarm in a building, all persons shall immediately evacuate the building and shall not enter the building until a City Fire Department official, Safety Officer, or Security Officer has determined that the building is safe to enter.

- **4-3.6 Smoking:**  
SEE SMOKING POLICY AT [IGP policy #171](#).
- **4-3.7 Fixed Occupant Load:**  
Occupant load for the following places of assembly are maximum figures based upon standards and the specific facilities.

Note: The capacity of rooms may be varied consistent with safety considerations upon request in writing by the Program Sponsor who may request a variance to exceed the approved room occupancy limit. The approval of any variance will be made by the Vice President for Business Affairs with recommendations by the Campus Safety Officer.

<b>Facility</b>	<b>Fixed</b>	<b>Chairs</b>	<b>Total</b>
<b>McAfee Gym North</b>	178	522	700
<b>McAfee Gym Main</b>			
East Balcony	600		
West Balcony	600		
North Balcony	300		
Floor Area		*750	1000
<b>Field House</b>		*1500	3000
<b>Lantz Arena</b>			
East Balcony	806		
South Balcony	1468		
West Balcony	1060		
North Balcony	1240		
<i>Floor Area</i>			*1000
East side bleachers	475		
West side bleachers	236		
<b>Buzzard Auditorium</b>	0		
<b>Coleman Hall Aud.</b>	200		200
<b>Phipps Lecture Hall</b>	148		148
<b>Dvorak Rec. Hall</b>	556		556
<b>Grand Ballroom</b>		*700	900
<b>Union Ballroom</b>		*500	600
<b>Union 7<sup>th</sup> Street Underground</b>	200		
<b>Char/Mattoon Room</b>	125		125
<b>Student Rec. Center</b>		*1500	1500

- \* Designates temporary folding chair seating. Setup layout will need approval of the EHS department two week prior to event date.
- **4-3.8 Seating Arrangements**
  - **4-3.8.1 Proposed seating arrangements for any function where chairs are to be used in place of fixed seating, such arrangements shall be submitted to the Campus Safety Officer for approval.**

#### 4-5 Welding Operations

- **4-5.1 Arc Welding**
  - **4-5.1.2 Workers designated to operate arc welding equipment shall be properly instructed and qualified to operate equipment.**
  - **4-5.1.3 Before starting operations, all connections to the machine shall be checked to make certain that they are properly made. The work lead shall be attached firmly to the work. Frames of all electric welding machines operated from power circuits shall be effectively grounded.**
  - **4-5.1.4 When the electrode holder is not in use, it shall be placed so that it will not cause an arc. Electrode rods shall not be left in the holder.**
  - **4-5.1.5 It is especially important that welders know how to avoid electric shock. Voltages required for arc welding are low and normally will not cause injury or severe shock. These voltages are, nevertheless, sufficiently high that, under certain conditions they may be dangerous to life. This danger is especially serious during hot, humid weather when the welder is perspiring freely or is wet. The welder should develop the habit of keeping the body insulated from both the work, the metal electrode, and the machine frame when possible. Particularly, the welder should never permit the metal parts of the electrode, the electrode coverings, or any metal part of the electrode holder to touch either the bare skin or any wet portion of the body.**
  - **4-5.1.6 Do not cool hot electrode holders by dipping in water.**
  - **4-5.1.7 Never change electrodes with bare hands, wet gloves, or when grounded.**
  - **4-5.1.8 Always return welding current to the machine by means of a single cable of the same or larger size than the welding conductor.**
  - **4-5.1.9 No chains or wire rope shall be used as part of a ground return circuit.**
- **4-5.2** When work has to be performed outside a booth, the arc shall be screened, shielded, or other safeguards provided to prevent injury to others. However, each employee has the personal responsibility of shielding his/her own eyes.
  - **4-5.2.1** Only cable free from repair or splices for a minimum distance of 10 feet from the cable end to which the electrode holder is connected shall be used, except that cables with standard insulated connectors or with splices whose insulating quality is equal to that of the cable are permitted.
  - **4-5.2.2** When it becomes necessary to connect or splice lengths of cable one to another, substantial insulated connectors of a capacity at least equivalent to that of the cable shall be used. If connections are made by means of cable lugs, they shall be securely fastened together to give good electrical contact and the exposed metal parts of the lugs shall be completely insulated.
  - **4-5.2.3** Cables in need of repair shall not be used. When a cable other than the cable lead within 10 feet of the holder becomes worn to the extent of exposing bare conductors, the portion thus exposed shall be protected by means of rubber and friction tape or other equivalent insulation.
  - **4-5.2.4** The ground and lead connections at the welding machine shall be insulated.
  - **4-5.2.5** A welder shall not curl or loop welding cable around the body.
- **4-5.3 Fire Prevention and Protection**
  - **4-5.3.1 The basic precautions for fire prevention in welding or cutting work are:**
    - A. Where practicable, move the object to be welded or cut to a location where there will be no possibility of setting a fire.**
    - B. If work cannot be moved, materials that burn easily should, if possible, be removed from the work area a minimum of 35 feet.**
    - C. If the object to be welded or cut cannot be moved and if all the fire hazards cannot be removed, then metal guards, curtains, or similar protection must be used to confine the heat, sparks, and slag, and to protect the immovable fire hazards.**
    - D. Floor areas should be kept clean and free of combustible materials.**

- E. If there are floor openings or cracks in the flooring that cannot be closed, care shall be taken not to expose combustible materials on the floor below to sparks which might drop through the floor. The same precautions shall be observed with regard to cracks or holes in walls, open doorways and open or broken windows. Suitable fire extinguishing equipment shall be maintained in a state of readiness for instant use. Such equipment may consist of pails of water or sand, hose lines, or portable extinguishers, depending upon the nature and quantity of the combustible material exposed.
  - F. Suitable fire extinguishing equipment shall be maintained in a state of readiness for instant use.
- **4-5.4 Welding or Cutting Containers**
  - 4-5.41 No welding, cutting, or other hot work shall be performed on used drums, barrels, tanks, or other containers until they have been cleaned thoroughly so as to assure that no flammable materials are present or any substances such as greases, tars, or acids which, when subjected to heat, might produce flammable or toxic vapors. After, the container is thoroughly cleaned, fill with water, purged with steam or nitrogen, and adequately vent.
- **4-5.5 Protection of Personnel**
  - 4-5.51 General
  - 4-5.52 A welder or helper working on platforms, scaffolds or runways shall be protected against falling. This may be accomplished by use of railings, safety belts, lifelines, or some other equally effective safeguard. Life belts and similar devices shall be of a type that will permit quick escape of the workman.
  - 4-5.53 Welders shall place welding cable and other equipment so that they are clear of passageways, ladders, and stairways.
  - 4-5.54 Where arc welding is regularly carried on in a building, the walls of the welding bay should be painted with a nonreflecting color such as zinc oxide (an important factor for absorbing ultraviolet radiation) and lampblack.
- **4-5.6 Eye and Ear Protection for Welder and Helper**
  - 4-5.61 Welder
  - 4-5.62 Welder's helmets with proper filter lenses and with protective glass or goggles underneath shall be worn for electric welding work. Protective glasses or goggles are required underneath the helmet to protect the eyes from injurious rays, from adjacent work, and from flying objects when the helmet is raised up as in checking or chipping the weld. The lenses may be clear or filtered, depending upon the amount of exposure to adjacent welding operations. If filtered glass is used, the sum of the shade numbers of the helmet and the spectacles or goggles should add up to the recommended filter shade number.
  - 4-5.63 Ear plugs shall be worn when the ear canal is exposed to falling, molten metal.
  - 4-5.64 Helper or Observer
  - 4-5.65 Electric welding helpers and observers shall use eye protection. Protective glasses, goggles or hand held face shields with the proper filter lenses are required for those watching or working near electric welding work. The filter lenses required are about one-half as dense as those required by a welder.
- **4-5.7 Welding and Cutting - Gas**
  - 4-5.71 Welder
  - 4-5.72 Welder's goggles with proper filter lenses shall be used for welding and cutting work. Goggles are needed to protect the eyes from possible accidental injury by light radiation, flare, flying sparks, and scale.
  - 4-5.73 Ear plugs shall be worn when the ear canal is exposed to falling, molten metal.
  - 4-5.74 Helper or Observer
  - 4-5.75 Welding and cutting helpers or observers shall use eye protection. Protective glasses, goggles, or handheld face shields with the proper filter lenses are required for those watching or working near gas welding or cutting work. The filter lenses required are about one-half as dense as those required by a welder or cutter.
- **4-5.8 Protective Clothing**
  - 4-5.81 Personal protective equipment must be approved and shall comply with specifications of the welding industry. The equipment listed herein is the required protection for some welding operations. Because of the varied conditions under which welders work, personal protection equipment suitable for each job cannot be specified. The

Supervisor is responsible for obtaining the proper personal protective equipment necessary to do the job safely.

- **4-5.82 Equipment List**  
Helmets Goggles Gauntlets, Gloves Goggle - for helpers Cape Sleeves (Leather or Perma Proof) Leggings (Perma Proof) Cape or Jacket (Perma Proof) Protection - for ear canal
- **4-5.83 Flameproof gauntlet gloves shall be used except on very light work.**
- **4-5.84 Flameproof aprons made of Perma Proof or leather may be desirable as protection against radiated head and sparks.**
- **4-5.85 Woolen clothing is preferable to cotton because it is not so readily ignited and helps protect the welder from changes in temperature. If cotton clothing is used, it is suggested that it be chemically treated to reduce flammability.**
- **4-5.86 Outer clothing shall be kept reasonably free from oil and grease.**
- **4-5.87 Sparks may lodge in rolled-up sleeves or pockets of clothing or cuffs of trousers. It is suggested that sleeves and collars be kept buttoned and pockets be eliminated from the front of overalls and aprons. For the same reason, cuffs on trousers or overalls should not have turned-up cuffs.**
- **4-5.88 For heavy welding work, fire resistant (Perma Proof) leggings should be used.**
- **4-5.89 When working overhead or in extremely confined spaces, caps or jackets made of leather or Perma Proof should be used.**
- **4-5.9 Employees shall not wear low-cut shoes with unprotected toes.**
  - **4-5.91 If heavy, fire resistant clothing is not worn, welding gauntlet sleeves and apron or cape or jacket will be worn.**
- **4-5.10 Ventilation**
  - **4-5.101 When welding must be performed in a space entirely screened on all sides, the screens shall be so arranged that no serious restriction of ventilation exists. It is desirable to have the screens so mounted that they are about two feet above the floor unless the work is performed at so low a level that the screen must be extended nearer to the floor to protect nearby workers from the glare of welding.**
  - **4-5.102 All welding and cutting operations carried on in confined spaces shall be adequately ventilated or air line respirator shall be worn. This applies not only to the welder but also to helpers and other personnel in the immediate vicinity.**
  - **4-5.103 Oxygen for a cylinder or torch shall never be used for ventilation.**
  - **4-5.104 Because of toxic vapors which could cause a serious illness, special precaution should be taken when welding or cutting allows metals of zinc, copper, lead, and tin. Also, welding on brass, bronze, galvanized iron, or any material coated with lead paint shall be done in a well-ventilated place or with the use of suitable respirators.**

#### **4-6 High Pressure Gas Cylinders**

- **4-6.1 Cylinders must be secured at all times so that they cannot fall.**
  - **4-6.12 Valve safety covers should be left on until pressure regulators are installed.**
  - **4-6.13 Containers must be marked clearly with the name of the contents. Tanks with wired on tags or color code only should not be accepted.**
  - **4-6.14 Hand trucks or dollies must be used in moving cylinders. Do not roll or drag cylinders.**
  - **4-6.15 The use of oil, grease, or lubricants on valves, regulators, or fitting is prohibited.**
  - **4-6.16 Fire extinguishers are not to be used for cooling beverages or other non-emergency use.**
  - **4-6.17 Do not attempt to repair damaged cylinders or to force frozen cylinder valves.**
- **4-6.2 Flammable Gases**
  - **4-6.21 Special care must be used when gases are used in confined spaces.**
  - **4-6.22 No more than two cylinders should be manifold together; however several instruments or outlets are permitted for a single cylinder.**
  - **4-6.23 No more than one cylinder of highly flammable gas shall be in one room without specific review by the director (or safety officer).**
  - **4-6.24 Stand by cylinders (full or empty) must not be stored in the lab.**
  - **4-6.25 Cylinder size is limited to 200 cubic feet.**
  - **4-6.26 Valves on all flammable gas cylinders shall be shut off when the laboratory is unattended.**

- **4-6.3 Pressure Regulators and Needle Valves**
  - **4-6.31 Needle valves and regulators are designed specifically for different families of gases. Use only the properly designated fittings.**
  - **4-6.32 Threads and surfaces must be clean and tightly fitted. Do not lubricate.**
  - **4-6.33 Tighten regulators and valves firmly with the proper sized wrench. (Do not use adjustable wrenches or pliers. They damage the nuts.) Do not force tight fits.**
  - **4-6.34 Open valves slowly. Do not stand directly in front of gauges. (The gauge may blow out).**
  - **4-6.35 Check for leaks at connections. Leaks are usually due to damaged faces and connections or improper fittings. Do not attempt to force improper fit. (It may only damage a previously undamaged connection and compound the problem.)**
  - **4-6.36 Valve handles must be left attached to the cylinders.**
  - **4-6.37 The maximum rate of flow should be set by the high pressure valve on the cylinder. Fine tuning of flow should be regulated by the needle valve.**
  - **4-6.38 Shut off cylinders when not in use.**
- **4-6.4 Leak Testing**
  - **4-6.41 Cylinders and connections should be tested with an (snoop) or a soap solution. First, test the cylinders before regulators are attached and test again after the regulators or gauges are attached.**
- **4-6.5 Empty Cylinders**
  - **4-6.51 Must be marked "empty".**
- **4-6.6 Handling**
  - **4-6.61 All valve cover caps will be screwed on firmly at all times when cylinders are not actually connected for use. All cylinders will be secured when transported and will be treated as carefully as "Full" whenever handled. Only one cylinder will be handled at a time.**
- **4-6.7 Storage**
  - **4-6.71 Cylinders will be securely stored in a vertical position away from all flammable substances. Smoking and other sources of ignition will be prohibited in all cylinder storage areas. All cylinders having the same contents should be grouped together, whereas all full and empty cylinders will be stored separately.**

#### **4-7 Grinders and Buffers**

- **4-7.1 Always wear approved eye and face protection when using a grinding wheel. Bench grinders shall be equipped with wheel guards, transparent shields, and tool rests**
  - **4-7.12 The center hole of a grinding wheel shall be the proper size for the arbor shaft on which it is mounted.**
  - **4-7.13 A grinding wheel shall be properly mounted.**
  - **4-7.14 No wheel shall be operated at a speed greater than that which is printed on the identification disc provided with the wheel.**
  - **4-7.15 When changing wheels or adjusting guards, the grinder shall be disconnected from its electrical or pneumatic power source.**
  - **4-7.16 The protective hood shall be replaced after changing wheels.**
  - **4-7.17 Face shields shall always be used during grinding operations.**
  - **4-7.18 The tool rest shall never be set below the center line of the wheel.**
  - **4-7.19 The tool rest shall always be kept within 1/4" of the wheel.**
  - **4-7.110 No adjustments shall be made while the wheel is in motion.**
  - **4-7.111 Excessive pressure shall not be applied to the face of the grinding wheel.**
  - **4-7.112 The side of a wheel shall not be used for grinding unless the wheel is designed for this type of grinding.**
  - **4-7.113 The face of grinding wheels shall be properly dressed at all times by use of an approved dressing tool.**
  - **4-7.114 Articles being ground or buffed shall be held by the operator in such manner that the hands will not be caught in case of slipping.**
  - **4-7.115 The operator shall always stand to one side of the wheel when starting a grinder and wait until it has reached full speed before using.**

#### **4-9 Power Mowers and Related Equipment**

- **4-9.1** Personal protective equipment shall be worn where provided for a specific work assignment or as directed by the Supervisor.
  - **4-9.12** Report to the Supervisor any equipment or safeguard which is found defective.
  - **4-9.13** Do not operate, lubricate, or provide maintenance on any equipment until trained in the operation, lubrication, maintenance procedures, hazards, and safeguards and have been authorized to do so.
  - **4-9.14** Do not remove a guard except for authorized maintenance purposes. The guard shall be replaced before the machine is returned to operation.
- **4-9.2 Personal Protective Equipment**
  - **4-9.21** All employees who operate any power grounds keeping equipment shall wear protective glasses.
  - **4-9.22** All employees who operate any power grounds keeping equipment shall wear protective shoes.
  - **4-9.23** All employees who operate any power grounds keeping equipment shall wear a hard hat when working around trees or low hanging objects.
- **4-9.3 General Operating, Powered Equipment**
  - **4-9.31** A gas tank shall not be filled indoors, while the engine is running, or while a source of ignition is present in the immediate area.
  - **4-9.32** Gasoline shall be stored or transported only in approved safety cans with "flashback" screens.
  - **4-9.33** Spills of gasoline shall be cleaned up immediately.
  - **4-9.34** The spark plug wire shall be disconnected before attempting to handle the blades of a mower or any repairs are to be done. The spark plug wire shall be disconnected when mower is to be lifted or carried.
  - **4-9.35** Power mowers shall never be operated without guards in place.
  - **4-9.36** Rocks, pieces of wire, etc., shall be picked up before mowing.
  - **4-9.37** Power mowers (especially the blades) shall be inspected after striking an object or vibration should develop.
- **4-9.4 Operating Riding Mowers**
  - **4-9.41** A riding vehicle shall not carry a passenger other than the operator.
  - **4-9.42** The source of power to an attachment of a riding vehicle shall be disengaged when the attachment is not in use or is being transported.
  - **4-9.43** Riding grounds keeping equipment shall not be operated up or down a slope of more than 26 degrees or move across the face of a slope of more than 17 degrees.
  - **4-9.44** When a riding vehicle is left unattended, the operator shall shift the transmission to neutral, set the parking brake, and disengage the attachment clutch.
  - **4-9.45** All riding type mowers shall be shut off before operators dismount from machine.
- **4-9.5 Operating, Walk Behind Mowers**
  - **4-9.51** A walk behind mower shall be moved across the face of a slope of more than 17 degrees, never up and down, except by use of a rope to raise and lower the mower while standing at the top of a slope.
  - **4-9.52** An electric powered walk behind mower shall be shut off and disconnected from the electrical source when cleaning, repairing, or adjusting.
  - **4-9.53** The operator shall maintain direct control of a self-propelled, walk behind mower. The operator shall adjust the ground speed to their individual gait for proper control.
  - **4-9.54** The operator of a hand operated rotary mower shall not back up with the machine or turn and pull the mower by the handle in the reverse direction.
  - **4-9.55** Rotary type power mowers should not be used near other employees.
  - **4-9.56** The drive mechanism shall be disengaged before starting the motor or engine.
  - **4-9.57** An engine or motor shall be stopped and an inspection made after striking a foreign object with a machine or if a vibration develops.
  - **4-9.58** An engine or motor shall be stopped when clearing a clog or a jam or when removing an attachment.
  - **4-9.59** Grounds keeping equipment shall not be left running or unattended if the operator is beyond vision or more than 25 feet away from the equipment.



- 4-9.510 A rotary mower blade shall be stopped while traveling over loose gravel drives or walks.
- 4-9.6 Operating, Snow Throwers
  - 4-9.61 When necessary to operate a snow thrower over graveled areas, the snow thrower shall be placed in its highest operating position.
  - 4-9.62 An area to be cleared of snow shall be checked and cleared of any visible object that might stop the collector or be picked up and then thrown by the impeller.
  - 4-9.63 The collector clutch shall be disengaged when adjusting the deflector guide upwards or downward.
  - 4-9.64 An employee shall not attempt to clear the discharge guide with the engine running.
  - 4-9.65 An operator shall maintain direct control of a self-propelled walk behind snow thrower. The operator shall adjust ground speed to their individual gait for control.
- 4-9.7 Shredder Baggers and Compost Mills
  - 4-9.71 The power of a shredder bagger or compost mill shall be shut off and all motion stopped before moving it.
  - 4-9.72 A clog or a jam in a shredder bagger or compost mill shall not be cleared until the power has been shut off and all motion stopped.
  - 4-9.73 The hopper feed opening for a shredder bagger or compost mill shall be of such distance from the cutting knives or impeller so that an operator cannot make contact or a guarding means shall be employed. A baffle gate shall be installed at the feel opening of a hopper to reduce hazard of kick backs.
  - 4-9.74 The discharge opening shall be covered by a guard, container, or catcher whenever the shredder bagger or compost mill is under power.
- 4-9.8 Edge Trimmer
  - 4-9.81 The cutting blade of an edge trimmer shall be covered with a guard to prevent foreign objects from being discharged into the operator's area or at an angle above 15 degrees from the ground.
  - 4-9.82 The power shall be shut off when:
    - Converting from edging to trimming operation or from trimming to edging.
    - Moving from one location to another or when traveling over loose gravel drives and walks.
- 4-9.9 Rotary Tillers
  - 4-9.91 The power to the tines of a rotary tiller shall not be used as a means to transport the tiller from one location to another location.
  - 4-9.92 Rocks or other entanglements shall not be removed from the tines until the power has been shut off and all motion stopped.
  - 4-9.93 The tines area shall be operated or shielded in such a manner as to prevent debris or other missiles from being thrown.
  - 4-9.94 An operator shall maintain direct control of a rotary tiller. The operator shall adjust the ground speed to their individual gait for control.

#### **4-10 Use of Ladders, Platforms, & Barricades**

- 4-10.1 Ladders
  - 4-10.12 Portable, straight or extension ladders shall be used only for their designed purpose. Before using, inspect carefully for any visual defects.
  - 4-10.13 All straight or extension ladders shall be equipped with approved safety feet. Where safety feet do not overcome the hazard of slipping, the ladder should be secured by other adequate means.
  - 4-10.14 Ladders shall be inspected periodically and removed from service if found defective and shall be destroyed if proper repairs cannot be made.
  - 4-10.15 Where ladders are used near a door or aisle through which there is traffic, warning signs shall be set up or other appropriate precautions taken to prevent potential accidents.
  - 4-10.16 Ladders improperly used are responsible for many accidents. When working with ladders, the following shall be observed:
    1. Place a ladder so that the horizontal distance of the base to the vertical plane of the support is approximately 1/4 the ladder length between supports. (Example: Place a

- 12 foot ladder so the bottom is three feet away from the object against which the top is leaning)
2. If a straight ladder is to be used on a slippery or vibrating surface or where there is any probability of the ladder tipping or slipping, the ladder shall be held in place by a person at the foot of the ladder and/or by adequately securing the top of the ladder in place.
  3. When going up or down a ladder, employees shall face the ladder and have free use of both hands for climbing.
  4. Bulky or heavy materials, which would interfere with the use of the hands or would over burden the ladder, shall not be raised and lowered by block and tackle or ropes.
  5. Employees shall not slide down ladders.
  6. Broken or weak ladders or ladder with missing rungs shall not be used.
  7. Two ladders shall not be spliced together; only approved type extension ladders shall be used where greater length is required.
  8. Ladders used near live electric circuits shall not be made of metal nor have metal rung braces, trusses, or struts, because of the danger of short circuits or accidental contacts with live parts of the circuit.
  9. Step ladders shall be fully opened before being used.
  10. Wooden ladders shall never be painted. Paint hides the grain of the wood and any defects. Ladders should be coated with a suitable transparent protective material to retard splintering caused by weathering.
  11. Ladders shall not be used in a horizontal position.
  12. Employees must not work or stand on either of the top two rungs or steps of any ladder. They shall avoid overreaching in any direction.
  13. Except for safety platform ladders, employees shall not work from the top steps of a step ladder.
  14. Ladders shall not be left in an upright position against any supporting object when not intended for immediate use. A ladder should be stored in such a manner to provide ease of access and inspection. If stored in a horizontal position, the ladder should be supported at a sufficient number of points to avoid sagging.
  15. Tools or equipment shall not be left on ladders or ladder platforms.
- **4-10.2 Portable Work Platforms**  
Portable work platforms shall be well constructed and maintained in a safe condition. Adequate guard rails shall be provided and used.
    - **4-10.21** Employees shall not stand or work from forks or other parts of lift trucks.
    - **4-10.22** Platforms with castors or wheels shall be equipped with safe locking devices. Outriggers must be used where provided.
    - **4-10.23** Extreme care shall be exercised in hoisting workers on platforms to avoid overhead structures and electrical hazards.
    - **4-10.24** No one shall be allowed to ride on a work platform between work locations.
  - **4-10.3** All regulations given in the OSHA Compliance Regulations shall be followed regarding ladder safety. 1910.25(c)(4)(i) - Portable wood ladders and 1910.26(c)(2)(iii) - Portable metal ladders

#### **4-11 Personal Protective Equipment**

- **4-11.1 General**
  - **4-11.11** All employees are required to wear personal protective equipment when exposed to hazards such as but not limited to: falling, flying or moving objects, temperature extremes, handling and use of chemicals and caustic materials, handling of rough or uneven materials, when exposed to dust, gases or vapors of a toxic or irritating nature, insufficient oxygen, moving machinery, high noise levels, and exposure to injurious rays.
  - **4-11.12** Personal protective equipment will be provided by the University and it is the Supervisor's responsibility to see that any employee who requires equipment or is frequently exposed to such hazards shall be issued the proper protective equipment for their personal use. The employee is responsible for its proper care and use.
- **4-11.2 Head Protection**
  - **4-11.21** Approved head protection equipment shall be worn by all employees when they are performing or observing work where the head is exposed to injury from moving, falling or

flying objects, electric shock, hair entanglements, chemicals, temperature extremes, or other types of head injury hazards or when directed by a Supervisor or employee in charge.

- 4-11.22 Visitors--All persons shall be required to wear approved protective headgear when visiting a construction area or when in an area where University employees are performing work where approved protective headgear is required.
- 4-11.23 Approved Winter Liners--Approved winter liners may be of knitted or woven fabric having no exposed metal fasteners. Knit style "over-the-brim" winter wear is approved, but extreme caution should be used by those employees whose work places them in close proximity to electrical equipment or conductors.
- 4-11.24 Hair Enclosures--Hair enclosures such as a hat, cap, or net shall be of a design adequate to protect any employee from having his or her hair entangled in moving machinery, equipment or where there is exposure to means of ignition. It shall be designed to be reasonably comfortable to the wearer, completely enclose all loose hair and be adjustable to accommodate all head sizes. Material used for a hair enclosure shall be fast-dyed, nonirritating to the skin when subjected to perspiration and capable of withstanding frequent cleaning. It shall not be reissued from one employee to another unless it has been thoroughly sanitized. A hair enclosure used in an area where there is a danger of ignition from heat, flame, or chemical reaction shall be made of materials that are nonburning or flame retardant. Employees will not physically alter and shall guard against damage to the equipment furnished. An employee shall not use head protection equipment that has been physically altered or damaged.
- 4-11.25 Care and Maintenance--Maximum physical electrical protection will be provided by protective headgear only if it is used with care, kept clean, stored properly, and inspected regularly. Headgear shall never be painted as this reduces the dielectric protection provided. Proper observance of the following procedures will keep headgear in good condition and maintain the level of protection at a maximum.
- 4-11.26 Adjustment--For maximum impact protection and comfort, the suspension and headband shall be adjusted to provide a clearance of 1/2" (plus or minus 1/8") between the crown of the headgear and the top of the wearer's head. Never wear protective headgear with the cradle removed. Chin straps used when necessary keep the protective headgear in place and insure full-time protection.
- 4-11.27 Inspection--The Supervisor or employee in charge shall make periodic checks of all protective headgear for cracks and other damage, and to see that the headgear is properly cared for and in good condition. However, the protective headgear user has the prime responsibility of determining whether the headgear is in safe condition. Protective headgear that is cracked, punctured, gouged, or otherwise damaged shall be replaced. No holes or attachments shall be made to any hard hat other than those designed by the manufacturer.
- 4-11.28 Storage--When not in use, protective headgear shall be stored in a clean dry place where it will not be exposed to physical damage, abuse, or excessive heat. Never place it on the ledge under the rear window of a passenger vehicle where the sun can shine directly on it or where a sudden stop can turn it into hazardous projectile.
- 4-11.29 Identification--The outside surface of all approved head protection shall remain void of all foreign material such as stickers, tape, or paint. However, personal identification name tags made by pressure sensitive tape may be placed on the shell of the headgear.
- 4-11.3 Foot Protection
  - 4-11.31 Foot guard protection may be required when foot injury hazards are present. The use of personal protective shoes is recommended so that employees may have the benefit of full-time foot protection both on and off the job. Protective shoes provide good protection against rolling or falling objects, moving machinery, and the accidental kicking of hard or sharp objects.
  - 4-11.32 Canvas shoes or shoes with open toes shall not be worn in any area where the potential for foot injury exists, or as determined by the Supervisor.
  - 4-11.33 Employees are required to wear protective shoes in certain work functions and those who qualify for the shared purchase plan with the University are encouraged to participate.
- 4-11.4 Eye, Face, and Respiratory Protection
  - 4-11.41 Approved protection shall be worn by all employees during construction, maintenance operations, inspection or observing where there is danger of exposing the eyes, face, and respiratory system to flying particles, acids, caustics, harmful electric arcs,

light rays, or other types of eye, face, and respiratory hazards or when directed by a Supervisor or employee in charge.

- 4-11.42 Exception: Approved eye protection shall not be mandatory in those situations where there is essentially no hazard to the eyes from flying objects or flash burns, such as:
  1. Walking, driving, inspections or general surveys.
  2. Inspection of open trenches.
- 4-11.43 Boiler Operation or Flame Flash--Eye and face protection shall be worn when near flame flash and heat exposure. Open fires, boiler or furnace fires or other fires can injure by direct contact, reflected light, or heat of incidental glare. Face shields and masks protect the face from flame flash or heat. Approved respirators, gas masks or supplied air masks are required protection in extreme cases where there is intense heat, lack of oxygen, or if toxic gases may be present.
- 4-11.44 Chemical Handling--Eye and face protection shall be worn (and respiratory protection when necessary) when handling acids, caustics, or other irritating or harmful dusts, liquids, or gases. Special hooded ports on the goggles are required to protect the eyes when handling chemicals. Approved goggles will protect the eyes, but face shields, masks, or respiratory equipment may be required to protect the face from chemical splashes.
- 4-11.45 Heavy Impact--Approved eye and face protection shall be worn when performing work involving exposures to heavy impact, such as: tree trimming, concrete breaking, stone or brick chipping, grinding, drilling, boring, turning operations, and work requiring the use of hammers. All of these operations subject the eyes and face to relatively heavy flying fragments from the tools used or the material being worked on. The type of work and good judgment will determine which type of protection is required.
- 4-11.46 Light Impact and Dust--Eye protection shall be worn when scaling rust, soldering, using compressed air, etc. Face shields are preferred for jobs with flying particles or spatter but with little dust. Protective glasses are approved if exposure is slight and infrequent in occurrence.
- 4-11.47 Sandblasting--Approved filter masks, respirators, or helmets supplied with air shall be worn for respiratory protection, in addition to the dust proof eye protection for sandblasting work. In well-ventilated rooms or open areas, respirator filtering with dust proof goggles is approved protection. In poorly ventilated areas or where contaminants are unusually heavy, air supplied sandblast helmets are required.
- 4-11.48 Welding--Electric--Welding on brass, bronze, or galvanized iron shall be done only in well-ventilated places or approved respirators must be worn.
- 4-11.49 Use a portable welding screen to protect the eyes of anyone approaching the work area.
  1. Welder--Welder's helmets with proper filter lenses and with safety glasses or goggles underneath shall be worn for electric welding work. Protective glasses or goggles are required underneath the helmet to protect the eyes from injurious rays, from adjacent work, and from flying objects when the helmet is raised. The lenses of the protective glasses or goggles may be clear or filtered, depending upon the amount of exposure to adjacent welding operations. If filtered glass is used, the sum of the shade numbers of the helmet and the spectacles or goggles should add up to the recommended filter shade number.
  2. Helper or Observer--Electric welding helpers and observers shall wear eye protection. Protective glasses, goggles or hand held face shields with the proper filter lenses are required for those watching or working near electric welding work, unless the welding arc is otherwise adequately shielded. The filter lenses required are about one half as dense as those required by the welder.
- 4-11.410 Welding and Cutting--Gas--Wear eye protection for gas welding and cutting work. Welding or cutting on brass, bronze, or galvanized iron shall be done in well-ventilated areas; approved respirators must be worn in confined areas.
  - 4-11.4101 Use a portable welding screen to protect the eyes of anyone approaching the work area.

Welder--Welder's goggles with proper filter lenses are required for welding and cutting work. Goggles are required to protect the eyes from possible accidental injury by bright radiation, glare, flying sparks, and scale.

#### 4-11.5 Description of Protectors

##### 4-11.51 Coverall Goggles--

Coverall goggles are less rigid than some of the other protection listed, allow a wide range of vision, are fully enclosed, and provide excellent eye protection. Plain or prescription glasses can be worn underneath. Coverall (chemical) goggles with special hooded ports protect the eyes when handling dusts, liquids, and gases, but not the face or respiratory system. Anti fog models are available where needed or desired. This type of goggle is approved for tree trimming and other heavy and light impact exposure, and soldering in addition to chemical handling; the latter when equipped with filtered ports.

##### 4-11.52 Cup Goggles--

Cup goggles give the most complete protection against flying objects. They have good impact resistance and are fully enclosed. However, they reduce the area of vision and give little or no protection to the face. Cup goggles are approved eye protection for boiler operations or flame flash exposure. If face protection is required, a face shield or mask type protector should be used. Cup goggles are excellent eye protection for grinding, chemical handling (with filtered or closed ports), heavy and light impact, soldering, electric switching, tree trimmers, gas welders, and welder's helpers (with proper filter glass lens shades).

##### 4-11.53 Face Shields--

Face shields protect both eyes and face from flame flash, heat, chemicals, light impact, and soldering. A plastic visor of .040 inches or heavier is required. It is important to keep the shield at a proper angle on the face to give maximum protection when handling liquids, gases, and dusts. Shields with thick visors will withstand light impact or splash, allow a wide range of vision and give good frontal protection to the entire face and eyes, but dust and large fragments can enter under or at the sides as they are not fully enclosed. Plain or prescription protective glasses can be worn underneath.

Face shields are approved face and eye protection for such general exposures when harmful rays are not present and when fully enclosed units are not required.

##### 4-11.54 Hand Held Face Shields--

Hand held face shields with blue cobalt lenses protect the eyes and are valuable for fire-color determination. These are recommended for furnace operations where fire color is important.

##### 4-11.55 Soft Frame Cover Goggles--

Soft frame cover goggles are fully enclosed and give complete protection against flying objects and dust. They give little or no protection to the face.

##### 4-11.56 Sandblast Helmets--

Sandblast helmets protect the eyes and face from abrasion and dust particles. Air-supplied sand blast helmets are approved for respiratory protection and for sandblasting and/or other work in poorly-ventilated areas where contaminants are unusually heavy. Air filters and properly adjusted regulators are required in the air line to protect the worker from impurities and dangerous pressure when air supply is used. If the air is supplied from an old-lubricated compressor, either a continuous carbon monoxide monitor or a high temperature shutoff is required.

##### 4-11.57 Protective glasses--Spectacle-type--

Protective glasses give little protection to the face and only frontal protection to the eyes. With plain or tinted glass lenses, they give eye protection from flame flash and harmful rays. They are approved for electric switching and for limited or infrequent exposures to heavy and light impact.

##### 4-11.58 Protective glasses with Side Shields--

Spectacle type protective glasses with side shields give good frontal and side protection to the eyes, although they are not fully enclosed. With plain or tinted glass lenses, they give eye protection from light impact, flame flash, or harmful rays.

They are approved for electric switching operations; for flame flash if exposure to harmful rays is expected to be of short duration, and/or if the probability of a flame flash is slight; for chemical handling if exposure is slight and infrequent in occurrence; for light impact, soldering and tree trimming if there is little dust and there is infrequent exposure to heavy flying particles. They are also approved for welding helpers or observers and for use underneath a welding hood with proper filter lenses.

##### 4-11.59 Welding Helmets--

Welding helmets with proper filter lenses are required for electric arc welding. They may be used for gas welding if regular welding goggles are not available. Glasses or goggles shall be worn underneath the helmet for eye protection when hood is raised.

##### 4-11.6 Care of Spectacles, Goggles, etc.

4-11.61 Eye protective equipment requires special care. The glass or plastic lenses or visor shall be kept clean for good visibility. The frames shall be properly fitted for comfort and the eye protection shall be kept in the proper protective case when not in use to prevent scratching, bending, or other damage to the frame or lenses.

4-11.62 A liquid cleaner and soft cloth or tissue are required for the plastic lenses, as the dry silicone-treated tissue will scratch plastic. Dry silicone treated tissues are approved for glass lenses.

4-11.63 Any eye, face, or respiratory protective equipment which is not issued to an employee for his/her personal (restricted) use but is available for use by more than one employee shall be cleaned and sanitized between users.

0. Cleaning is accomplished either by immersing the equipment in a solution of detergent or non-abrasive soap and water or by swabbing the equipment with a clean cloth which has been soaked in such a solution. A thorough rinse in clear water is essential to complete the cleaning phase.

1. Sanitizing is accomplished either by light wiping with an isopropyl alcohol swab or by immersing the equipment for ten minutes in a solution of clean water and four tablets of germicide solution for each gallon of water. The disinfectant immersion procedure shall be followed by thorough rinsing with clean water. The equipment shall then be air dried in a clean atmosphere to complete sanitizing.

#### 4-11.7 Procurement Prescription Eye Protection

4-11.71 An employee who wears prescription glasses and needs protective glasses to protect against the hazards of the work may make application to his Supervisor for prescription protective glasses. Contact lenses are not an effective means of eye protection and may even increase the level of hazard. Therefore, contact lenses shall not be worn in any area requiring eye protection.

#### 4-11.8 Application of Approved Eye and Face Protective Devices and Illustrations of Approved Protection

4-11.81 Goggles and other eye and face protection shall conform to the requirements of the American National Standard Institute Standard for Eye and Face Protection.

**APPLICATION OF APPROVED PROTECTIVE DEVICES** Operation Hazards Recommended Protectors Acetylene-Burning Acetylene-Cutting Acetylene-Welding ,Sparks, Harmful Rays Molten Metal Flying Particles, 4, 5, 6 Chemical Handling ,Splash, Acid Burns, Fumes,2,7(For severe exposure add 7\* over 2) Chipping,Flying Particles,1, 3, 4A, 5A Electric Welding,Sparks, Intense Rays, Molten Metal,8(8 in combination with 3 in tinted lenses advisable) Furnace Operations,Glare, Heat, Molten Metal,4, 5, 6 (For severe exposure add 7\*) Grinding Light,Flying Particles,1, 3, 7\* Grinding-Heavy,Flying Particles,1,4A,5A(For severe add 7\*) Laboratory,Chemical Splash, Glass Breakage,2 (7\* when in combination with 3) Machining,Flying Particles,1, 3, 7\* Molten Metals,Heat, Glare, Sparks, Splash,4,5 (7\* in combination with 3, in tinted lenses) Spot Welding,Flying Particles, Sparks,1, 4, 5, 7\*

\*The face shield visor is the least preferred of all types of eye protection unless it is used in combination with one of the other approved eye protectors.

#### 4-11.9 Selection of Shade Numbers for Welding Filters

4-11.91 The following is a guide for the selection of the proper shade numbers of filter lenses or plates used in welding. Shades more dense than those shown for various operations may be selected to suit the individual's needs.

Shielded metal-arc welding 1/16, 3/32,1/8 10 - 5/32-inch  
Gas-shielded arc welding (nonferrous) 11 - 1/16,3/32,1/18,5/32-inch diameter electrodes  
Gas-shielded arc welding (ferrous) 12 - 1/16,3/32,1/18,5/32-inch diameter electrodes  
Shielded metal-arc welding 3/16,7/32,1/4-inch 12 - diameter electrodes - 5/16, 3/8-inch diameter electrodes 14  
Atomic hydrogen welding 10-14  
Carbon-arc welding 14  
Soldering 2  
Torch blazing 3 or 4  
Light cutting, up to 1" 3 or 4  
Medium cutting, 1" to 6" 4 or 5  
Heavy cutting, over 6" 5 or 6  
Gas welding (light) up to 6" 4 or 5

Gas welding (medium) 1/8" to 1/2-inch 5 or 6  
Gas welding (heavy) over 1/2-inch 6 or 8

#### 4-11.10 Hearing Protection

4-11.101 Approved hearing protective equipment shall be worn by all personnel:

- At all times in area of exposure to a noise level greater than 100 dBA.
- At all times while exposed to noise levels of 96 dBA inclusive, after they have had a cumulative two-hour exposure to noise levels in that range without such protection in any 24 hour period.
- At all times while exposed to noise level of 90 dBA to 95 dBA inclusive, after they have had a cumulative four-hour exposure to noise levels in that range without such protection in any 24 hour period.

#### 4-11.11 Hand Protection

4-11.111 Work gloves are provided for certain work assignments and should be worn whenever the potential for hand injuries exists.

#### 4-11.12 Personal Clothing

4-11.121 Personal clothing shall not be worn in those work functions where the University furnishes and prescribes a particular uniform that is to be worn.

Clothing made from synthetic materials should not be worn where an explosive or flammable atmosphere may exist. Loose clothing should not be worn near moving machinery.

### 4-12 Storage and Warehousing

#### • 4-12.1 Stores and Warehousing Functions

##### • 4-12.11 General

• 4-12.12 Stores and Warehouse employees regularly use tools and equipment to make the movement and transportation of material easier and more efficient.

• 4-12.13 No one shall use equipment for use other than its intended purpose. Improper use may result in accident, injuries, or maintenance problems.

• 4-12.14 Report any defects or unsafe conditions to your Supervisor immediately.

#### • 4-12.2 Housekeeping

• 4-12.21 Good housekeeping is a sign of good workmanship and provides safe working conditions. Good housekeeping will prevent accidents caused by tripping, stumbling, slipping, or stepping on or bumping into tools, material, or other objects.

#### • 4-12.3 Personal Protective Equipment

• 4-12.31 While Personal Protective Equipment can lessen the injuries resulting from accidents, your personal attitude toward the job and the hazards involved can prevent the accidents from happening.

##### • 4-12.32 Eye and Face Protection

• 4-12.33 Approved eye and face protection shall be worn while grinding, using power saws, or engaging in any other operation where the danger of flying objects or particles exists.

##### • 4-12.34 Head Protection

• 4-12.35 Approved protective headgear shall be worn by all personnel when:

Employees are present in areas where a hazard exists from falling or flying objects or from other harmful contacts or exposures or where there is a risk of injury from electric shock, hair entanglement, chemicals, or temperature extremes. Working in an area where overhead storage is present or as directed by the Supervisor.

• 4-12.36 Lift truck drivers are not required to wear a hard hat if the truck is equipped with an overhead cage protecting the driver.

##### • 4-12.37 Hand Protection

• 4-12.38 To prevent injury due to abrasions, cuts and splinters, etc., protective gloves are required to be worn when handling heavy or rough materials.

##### • 4-12.39 Foot Protection

• 4-12.310 Protective shoes are required to prevent toe injuries.

##### • 4-12.311 Clothing

• 4-12.312 Since Stores and Warehousing work is conducted both inside and outside, suitable clothing should be worn to withstand the various weather elements.

- **4-12.4 Lifting**
  - 4-12.41 Refer to proper lifting techniques in Lifting Chapter.
- **4-12.5 Motor Vehicles**
  - 4-12.51 As an operator of a University vehicle, you are the University to everyone who observes your driving on University property, on public streets, or highways. It is very important that you not only operate the vehicle according to all applicable laws, but also in a manner that will display courtesy and consideration to other drivers and pedestrians.
- **4-12.6 Lift Trucks - Gasoline or Battery Powered**
  - 4-12.61 Lift trucks shall not be driven in aisles, etc., with load elevated.
  - 4-12.62 Do not stand under elevated loads.
  - 4-12.63 Operators must not overload and shall not move unsafe loads.
  - 4-12.64 Do not pick up loads with one fork unless it is with a special sling arrangement.
  - 4-12.65 Do not permit other people to ride on lift trucks or forks.
  - 4-12.66 The operator must face or look in the direction he is traveling and look to the rear before backing up.
  - 4-12.67 When a load on a fork truck obstructs the vision of the operator, they shall drive in reverse.
  - 4-12.68 Do not brake more sharply than necessary.
  - 4-12.69 On inclines, always back down in low gear and never turn sideways.
  - 4-12.610 Do not use the reverse gear for the brake.
  - 4-12.611 Do not drive with wet or greasy hands.
  - 4-12.612 Be extremely careful and drive slowly on wet and slippery floors.
  - 4-12.613 A truck must not be left unattended with motor running.
  - 4-12.614 Avoid bumping into objects or using the forks as a ram.
  - 4-12.615 Operators must not ride the clutch pedal or pump the foot accelerator while in operation.
  - 4-12.616 Fueling of gasoline-powered lift trucks shall be done outside the building with the engine stopped and the operator off the vehicle.
  - 4-12.617 Any spilled gasoline must be cleaned up before starting the motor.
  - 4-12.618 Keep to the right in operation whenever possible.
  - 4-12.619 Slow down and sound horn at cross aisles and exits.
  - 4-12.620 Keep your body, feet, and hands inside of running line of lift truck.
  - 4-12.621 Stunt driving and horseplay will not be tolerated.
  - 4-12.622 Parked lift truck must have mast tilted forward and forks flat on the floor.
  - 4-12.623 No smoking or other form of ignition shall be allowed in the immediate area of the vehicle while the battery is being charged.
  - 4-12.624 The battery charger should be turned off when connecting or disconnecting the battery and when not in use.
- **4-12.7 Trucks - Hand and Push Types**
  - 4-12.71 All hand trucks shall be kept in good repair.
  - 4-12.72 Hand trucks not in use shall be parked where they will not create a hazard or interfere with normal operations.
  - 4-12.73 Hand trucks not equipped with brakes shall be blocked to prevent movement when "braking" the load.
  - 4-12.74 When a two-wheel hand truck is used, balance the load so that the weight rests on the axle, not on the handle.
  - 4-12.75 For better control, four-wheeled hand trucks should be pushed not pulled.
- **4-12.8 Hydraulic Lift Gates**
  - 4-12.81 Gate surfaces shall be kept clean and free from grease and oil.
  - 4-12.82 Extreme care shall be exercised when riding gate up and down to avoid pinched limbs and falling.
  - 4-12.83 Gates shall be properly secured with safety chain when truck is moving as they have a tendency to creep.
- **4-12.9 Ladders**
  - 4-12.91 For normal storeroom use, a department approved platform ladder shall be used.
  - 4-12.92 For additional information, refer to Ladder Section of this chapter.



- **4-12.10 Material Handling**
  - 4-12.101 Unloading or loading trucks, semis, or trailers
  - 4-12.102 Before loading or unloading any vehicles with a lift truck, the vehicles' brakes must be set and wheels blocked to prevent movement.
  - 4-12.103 No fork truck shall be driven onto any vehicle without a visual safety inspection of the condition of the dock plate and the flooring of the vehicle.
  - 4-12.104 Use extreme caution and maintain adequate clearance when operating a fork truck near the edge of a loading dock.
  - 4-12.105 Long Objects
  - 4-12.106 When working alone, avoid carrying any object 20 feet long or over; it is better to drag one end.
- **4-12.11 Uncrating and Unpacking**
  - 4-12.111 On most large packages, the manufacturer has printed instructions on the outside of cartons or crates as to the best and safest way to unpack. Follow these instructions to reduce the possibility of injury.
    - Protect yourself and watch for others around you when cutting banding. Safety type band cutters shall be used.
    - Proper tools shall be used when uncrating materials where the packaging includes wood boards, nails, or lag screws.
    - Whenever unpacking or uncrating is done, debris shall be picked up immediately.
- **4-12.12 Flammable Materials**
  - 4-12.121 Any flammable material shall be stored in approved containers and in locations that do not endanger life or property.
- **4-12.13 Stacking Material**
  - 4-12.131 Boxes and bags shall, whenever possible, be cross tied when stacking.
  - 4-12.132 If boxes and bags are piled more than five feet high, the pile shall be shaped as a pyramid.
  - 4-12.133 Barrels or drums shall, if possible, be stored on end. If they are to be stored on their sides, a rack will be used, or they shall be piled in the shape of a triangle with planks between each row and the outside barrels properly blocked to stabilize the pile.

#### **4-13 Storage and Use of Flammable Liquids**

- **4-13.1 Storage of Flammables**
  - 4-13.12 All quantities of flammable liquids brought into laboratory areas or workplaces will be kept at a minimum at all times.
  - 4-13.13 All flammable liquids stored in laboratory or workplace areas in quantities greater than one liter will be kept in metal safety cans unless the liquid is known to attack metal.
  - 4-13.14 Corrosive liquids should remain in their original containers and be used only as needed out of small glass or plastic containers.
  - 4-13.15 Approved safety storage cans will be used for most materials except for highly volatile and low flash-point solvents such as carbon disulfide and diethyl ether. These items should be stored in their original container with their caps tightly closed and preferably in a fume hood.
  - 4-13.13 Small quantities--Working amounts may be stored on open shelves, but bulk storage (more than 6 gallons) must be in a safety storage area. All must be marked.
  - 4-13.14 Do not store ether in a closed area such as a refrigerator.
  - 4-13.15 Do not store flammables in areas exposed to direct sunlight.
- **4-13.2 Handling**
  - 4-13.21 Carry all glass bottles containing flammable liquids or solvents in metal containers or trays that are capable of holding the entire contents of the glass bottles, should breakage occur.
  - 4-13.22 Identify all containers with a "FLAMMABLE" label with the name of the material included.
  - 4-13.23 Use a fume hood when appreciable quantities of flammable materials are transferred from one container to another, or when it is allowed to stand in or is heated in open containers.

- **4-13.24** If a fume hood is not available then transfers should be made outside the building.

#### **4-18 Color Coding of Machines, Hazards, Containers, etc.**

- **4-18.1** As defined by code ANSI Standard Z53,1-1979 the basic meanings of color usage are as follows:

Color Designation Red Fire Apparatus--Stop--Danger Orange Dangerous part of machines or energized equipment Yellow Marks physical hazards and designated caution Green Designates "Safety" for bulletin boards, gas masks, first aid kits, and safety deluge showers, Blue To warn against starting, use of, or movement of equipment under repair or being worked upon, Purple Ionizing radiation exposure present, Black & White Traffic and housekeeping markings Combination.

#### **4-19 Parking**

- **4-19.1 Parking** -- See the University Parking Regulations
- **4-19.2 Campus Traffic Regulations.**
  - **4-19.2.1** By the authority of Chapter 144, Section 1007-1009, Illinois Revised Statutes, as amended, the following rules and regulations have been adopted for control of vehicles on the campus of Eastern Illinois University in order to promote the safety and convenience of faculty, staff, students, and visitors and to facilitate the general operation of the University. These regulations shall apply to all property owned/controlled by the University. As always, to ensure the safety of everyone it is imperative to wear safety belts at all times while inside a licensed motor vehicle.
  - **4-19.2.2** Curbs painted red indicate "No Parking" zones. Curbs painted yellow indicate loading and unloading areas for business deliveries. Parking in red or yellow zones or by loading docks or entrances to buildings and driveways is prohibited.
  - **4-19.2.3** Driving into or parking a vehicle in any area on the University campus which has been closed by the use of barricades, chains, or other traffic-control devices is prohibited.
  - **4-19.2.4** Parking a vehicle on pedestrian paths, grassed areas, sidewalks, or safety zones is prohibited.
  - **4-19.2.5** Parking a vehicle in such a location as to obstruct a properly parked vehicle is prohibited.
  - **4-19.2.6** Parking a vehicle on a driveway posted for use by emergency vehicles within the designated spaces.
  - **4-19.2.7** Where parking spaces are marked, drivers must park their vehicles within the designated spaces.
  - **4-19.2.8** Parking a motorcycle, motor scooter, or motor bike in bicycle racks or vehicle parking spaces is prohibited.
  - **4-19.2.9** Should a vehicle break down and it becomes necessary to park in an illegal manner, the driver must notify the Eastern Illinois University Police Department immediately for authorization.
  - **4-19.2.10** The responsibility of finding legal parking spaces rests with the vehicle operator. Lack of space is not considered a valid reason for violation of regulations. The purchase of the parking permit does not guarantee the availability of parking space.
  - **4-19.2.11** Pedestrians have the right of way at all crosswalks.
  - **4-19.2.12** Driving a motor vehicle (including motor scooters, motorcycles, motor bikes, and mopeds) on pedestrian paths, sidewalks, grassed areas, or safety zones is prohibited.
  - **4-19.2.13** Driving a private motor vehicle on any drive or driveway posted for emergency vehicles only is prohibited.
  - **4-19.2.14** All accidents involving moving vehicles, which occur on University property, must be reported immediately to the Eastern Illinois University Police Department.
- **4-19.3 Sanctions**  
Sanctions for moving violations and parking violations shall be as indicated in the Parking Regulations.
  - **4-19.31 Failure to Comply with Sanctions**  
Violators of University traffic and parking regulations who fail to comply with sanctions imposed are subject to regular institutional discipline, including withdrawal or suspension of campus vehicle

privileges and/or vehicle impoundment. In addition, students are subject to encumbrance of academic records.

- **4-19.3.2 Impoundment**

The University reserves the right to remove and impound any vehicle found on campus without a permit with an unauthorized, altered, or counterfeited permit, without license plates, parked in a barricaded area, or parked in such a way as to constitute a serious hazard or impediment to vehicular or pedestrian traffic, or to the movement and operation of emergency equipment. Abandoned vehicles will also be impounded. In addition to the above, any person who habitually or flagrantly disregards these traffic and parking regulations will also have his/her vehicle subject to impoundment. The University may require owners of such vehicles to satisfy any outstanding penalties prior to release of impounded vehicles. The owner will be responsible for cost involved in removing, impounding, and storage of such vehicles.

- **4-19.3.3 City of Charleston Streets**

Citations are issued by the City of Charleston Officers for parking violations if committed upon the streets of the University campus and not upon University passageways. If the recipient does not respond within the specified time, a warrant for arrest will be issued by the City of Charleston. All city violations are handled by the Charleston Police Department, and all fines are paid to the City of Charleston.

- **4-19.3.4 Traffic Violations**

When a notice of violation of University traffic regulations is issued, the recipient shall either (1) pay the penalty directly or (2) file a written appeal with the Citation Hearing Board.

- **4-19.3.5 Appeal Before Citation Hearing Board**

Appeals to the Citation Hearing Board shall be heard in accordance with the procedures contained in the Parking Regulations of the University.

- **4-19.3.6 Miscellaneous**

- A. The University assumes no responsibility for the care and protection of any vehicle or its contents at any time the vehicle is operated or parked on the campus.
- B. The person to whom a parking permit is issued is responsible for all parking violations involving his/her vehicle.
- C. The temporary absence of a sign at the entrance of the parking area does not signal the removal of parking restrictions for that area. If restrictions are altered, notices will be posted, and the change will be effective immediately.
- D. The University may amend these regulations at any time. Advance public notice of changes will be given.
- E. From time to time, it may be necessary to close all or certain parts of certain lots because of construction or special events scheduled by the University, or under similar circumstances. The Parking Services Division will endeavor to notify decal holders, through public notice, in advance of such closures, together with information on alternative parking.

- **4-19.4 Police Officers**

- **4-19.41 Officers of the Eastern Illinois University Police Department have the authority and power of peace officers for the protection of property under the jurisdiction of the Board of Governors, the prevention of trespass, the maintenance of peace and order, and the enforcement of regulations respecting vehicles upon the property**

## **4-20 Trenching - Excavation**

- **4-20.1 Definitions:**

Trenches-- Excavations mean a narrow hole made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet. If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the forms or structure to the sides of the excavation to 15 feet or less the excavation is also considered to be a trench.

A competent person -- means one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate them.

Shoring — means a structure such as a metal hydraulic, mechanical or timber system that supports the sides of an excavation and which is designed to prevent cave-ins.

- **4-20.2** Trenching and Excavation are a hazard to both the employees in the trench as well as the employees that are working around the open hole. All non-supervised open Trenching and Excavation on campus must have a fence around the perimeter of the hole. It is the responsibility of both Contractor and Facility Planning and Management (FPM) department heads to assure that excavation is protected.
- **4-20.3** Before entry into the trench, a competent person must fill out the "Trenching and Excavating form." The competent person shall inspect the trench every shift (eight hours) or if conditions change in the excavation. The competent person will fill out an inspection form on any condition found within the trench. This form will need to be kept on file for OSHA inspections.
- **4-20.4** Hazardous atmospheres may exist while working in a trench. The Excavation atmosphere must be checked when a hazard is present to prevent harmful exposure. If some harmful conditions exist, the excavation may only be entered as a permit required confined space.
- **4-20.5** Heavy equipment operating around an open trench must have a warning system for the equipment so the equipment does not fall into the hole. The warning system may be a barricade, hand or mechanical signals, or stop logs.

See Sample Trenching Inspection Form

## Trenching and Exavation

[Trenching form.pdf](#)

### Checklist

Date: \_\_\_\_\_

Site Location: \_\_\_\_\_

\_\_\_\_\_ # in crew          \_\_\_\_\_ # in trench          \_\_\_\_\_ depth of trench

Name of Competent Person Time \_\_\_\_\_

\* If weather has effected the work site, reinspect!

Type of Soil Materials:

\_\_\_\_\_ Type A (cohesive clay) Slope angle 3/4 : 1

\_\_\_\_\_ Type B (silty loam) Slope angle 1: 1 45 degrees

\_\_\_\_\_ Type C (sandy silt or clay) Slope angle 1.5 : 1 34 degrees

Type of shoring    \_\_\_\_\_ Timber          \_\_\_\_\_ Mechanical          \_\_\_\_\_ Hydraulic

### Yes/No

\_\_\_\_\_ Trench 20 feet deep or better — Trench protection design by Professional Engineer.

\_\_\_\_\_ Adjacent structures are supported (street, sidewalks, building)

\_\_\_\_\_ Employee no farther that 25 feet from a ladder

\_\_\_\_\_ Ladders extend 3 feet above mouth of trench

\_\_\_\_\_ Spoil bank piled no closer that 2 feet of mouth of trench

\_\_\_\_\_ Mobile equipment has warning system of trench mouth locations

\_\_\_\_\_ Inspection by Competent person after rain and other changes in the trench

\_\_\_\_\_

Are employees working outside the trench shoring area  
If yes, move or extend the shoring area.

\_\_\_\_\_

There is reason to believe a hazardous atmosphere exists  
If yes used Confined Space Entry Form

\_\_\_\_\_

Barricades are in place around trenching area