Personal Protective Equipment

HARFORD
COMMUNITY COLLEGE

Personal Protective Equipment Program

A. Introduction

Harford Community College is dedicated to providing safe and healthful facilities for all employees and students and complies with Federal and State occupational health and safety standards. Administrators, faculty and staff share the responsibility of ensuring protection of all employees from injury. The Harford Community College Personal Protective Equipment Program is designed to identify the process by which workplace hazards are assessed, designate responsibilities for program implementation, describe training and record keeping requirements, and describe physical barriers that protect employees from the risk of workplace hazards.

OSHA requires the use of personal protective equipment (PPE) to reduce employees' exposures to hazards when engineering and administrative controls are not feasible or effective in reducing these exposures to acceptable levels. Personal protective equipment will be provided, used, and maintained when it has been determined that its use is required and that such use will lessen the likelihood of occupational injury and/or illness.

B. Scope

Harford Community College is required to conduct workplace hazard assessments to determine what hazards are present that require the use of PPE. College employees who currently utilize PPE or have the potential to encounter hazards to the eyes, face, head, feet or hands, will be required to participate in this PPE Program, which will include being provided with, utilizing, and maintaining appropriate PPE and receiving training in its proper use. PPE will be selected and used to protect employees from the hazards and potential hazards that are likely to be encountered. Respiratory protection is covered under a Respiratory Protection Program.

C. Applicable Regulation

The applicable regulation is OSHA Regulation 29 CFR Part 1910 Subpart 29, and I – Personal Protective Equipment CFR 1910.95 Occupational Noise Exposure.

D. Glossary

1. **ANSI:** American National Standard Institute is a nonprofit, voluntary membership organization that coordinates the U.S. Voluntary Consensus Standard System. Their standards have been adopted

throughout government and industry for various types of personal protective equipment.

2. **Hazard Workplace Assessment:** Investigating the work environment for potential dangers that could result in injury or illness.

3. **NIOSH:** The National Institute for Occupational Safety and Health (NIOSH) is the federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. NIOSH is part of the Centers for Disease Control and Prevention (CDC) in the Department of Health and Human Services.

4. **Personal Protective Equipment (PPE):** Devices worn by the employees to protect against hazards in the environment. Examples include safety glasses, face shields, respirators, gloves, hard hats, and steel-toe shoe.

E. Responsibilities

1. **Health and Safety Specialist**
   The Health and Safety Specialist is responsible for the development, implementation, and administration of the PPE Program. The Health and Safety Specialist shall:
   a. Conduct and certify hazardous workplace assessments to determine the presence of hazards that require the use of PPE;
   b. Conduct periodic workplace reassessments as requested by supervisors and/or as determined by the H&S Specialist;
   c. Maintain records on hazardous workplace assessments;
   d. Develop PPE Program training materials;
   e. Provide PPE Program training to supervisors;
   f. Provide training and assistance to supervisors and other employees on the proper use, care, and cleaning of approved PPE.

2. **Supervisors**
   Supervisors have the primary responsibility for implementation of the PPE Program in their work area. Supervisors shall:
   a. Provide appropriate protective equipment and make it available to employees;
   b. Ensure that any employee-provided PPE is adequate and that the equipment is properly maintained and sanitized;
   c. Ensure employees are trained on the use, care, and cleaning of PPE;
   d. Maintain records on employee PPE training;
   e. Supervise staff to ensure that the PPE Program elements are followed and that the employees properly use and care for PPE;
   f. Ensure defective or damaged equipment is immediately replaced.

3. **Employees**
   The PPE user is responsible for following the requirements of the PPE Program. Employees shall:

a. Wear PPE as required;
b. Attend required training sessions;
c. Demonstrate an understanding of training received;
d. Care for, clean, and maintain PPE as required;
e. Inform the supervisor of the need to repair or replace PPE.

F. Program Components

1. **Hazard Assessments**

OSHA requires employers to conduct inspections of all workplaces to determine the need for personal protective equipment (PPE) and to select and provide the proper PPE for each task performed. When conducting a hazard assessment, the hazards and the potential hazards associated with a workplace or a task are identified and assessed. The Health and Safety Specialist shall use the Hazardous Workplace Assessment Form for this requirement (see Appendix II). Guidance for completing the assessment can be found in 29 CFR 1910 Subpart I Appendix B: Non-mandatory Compliance Guidelines for Hazard Assessment and Personal Protective Equipment Selection. The assessment will determine if the use of PPE is an appropriate control measure and allow for selection of personal protective equipment that will protect the employee from the identified hazard. Adequate protection against the highest level of each of the hazards will be provided or recommended for purchase.

The Hazardous Workplace Assessment will be conducted on a single employee conducting a single task, or on a group of employees if all the employees perform an identical task (i.e. painting, welding, etc.) Each assessment will be documented and will include identification of the workplace surveyed, the person conducting the survey, findings of potential hazards, and date of survey. During the assessment of each task, the Health and Safety Specialist will inspect the layout of the workplace and identify the following hazards:

a. High or low temperature that could result in burns, eye injury, ignition of equipment, heat/cold stress, frostbite, lack of coordination, or other;
b. Chemical exposures, including airborne (inhalation hazards) or skin/eye contact;
c. Harmful dust or particulates;
d. Light radiation from welding, lasers, cutting, furnaces, high intensity lights, or other;
e. Sources of falling objects (overhead hazards), and the potential for dropped or rolling objects that could crush or pinch the feet;
f. Sharp objects that may pierce the feet or cut the hands;
g. Collision hazards caused by workplace layout and location of coworkers;
h. Electrical hazards;
i. Any other identified potential hazards.

2. **Selection Guidelines**

Once a hazard has been identified and evaluated, the general procedure for selecting protective equipment is to:

a. Become familiar with the type of protective equipment that is available, and what the equipment can do;
b. Select the PPE that ensures a level of protection greater than the minimum required to protect employees from the hazards;
c. Fit the user with proper, comfortable, well fitting protection and instruct employees on care and use of the PPE;
d. Select and provide only those items of protective clothing and equipment that meet NIOSH or updated ANSI standards.

3. **Protective Equipment**

All personal protective clothing and equipment will be of safe design and construction for the work to be performed and shall be maintained in a sanitary and reliable condition. The personal protective equipment selected must fit the employee it is intended to protect. Employees will more likely wear personal protective equipment that fits properly and is comfortable. Damaged or defective protective equipment shall be immediately taken out of service to be repaired or replaced.

a. Eye and Face Protection: 29 CFR 1910.133; ANSI Z87.1-1989

All employees who may be in eye hazard areas are required to wear protective eyewear to prevent eye injuries. Suitable protectors shall be used when employees are exposed to hazards from flying particles, molten metal, acids or caustic liquids, gases, or vapors, bioaerosols, or potentially injurious light radiation. Side protectors shall be used when there is a hazard from flying objects. Goggles and face shields shall be used when there is a hazard from a chemical splash. Face shields shall only be worn over primary eye protection (safety glasses or goggles). Eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer.

OSHA regulations require that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards will wear protection that incorporates the prescription in its design, or shall wear eye protection that can be worn over the prescription lenses (goggles, face shields) without disturbing the proper position of the prescription lenses or the protective lenses.

b. Head Protection: 29 CFR 1910.135; ANSI Z89.1-1986

Head protection will be furnished to, and used by, all employees engaged in construction and other maintenance work. Head protection is required to be worn when hazards from falling or fixed objects or electrical shock are present.

c. Foot Protection: 29 CFR 1910.136; ANSI Z41.1-1991

Safety shoes or boots with impact protection will be provided to and worn by employees in work areas that pose foot impact hazards or where employees carry or handle heavy materials such as packages, parts or heavy tools which could be dropped. Safety shoes or boots with compression protection are required for work activities involving skid trucks or other activities where equipment could potentially roll over an employee's feet. Safety shoes or boots with puncture protection are required where sharp objects such as nails, wire, tacks, screws, metal scrap, etc., could be stepped on by employees causing a foot injury.

d. Hand Protection: 29 CFR 1910.138

Suitable gloves shall be provided to and worn by employees when hazards from chemicals, cuts, lacerations, abrasions, punctures, burns, pathogens, and harmful temperature extremes are present. Glove selection shall be based on performance characteristics of the gloves, conditions, durations of use, and hazards present. Disposable gloves are not to be reused. The first consideration in the selection of gloves for use against chemicals is to determine, if possible, the exact nature of the substances to be encountered. Glove types are described in Appendix I.

e. Electrical Protection: 29 CFR 1910.137

Harford Community College maintenance mechanics do not conduct operations on live electrical wires and equipment. Maintenance mechanics will use standard "Lockout-Tagout" protocol found in HCC's Control of Hazardous Energy Program to ensure that equipment has been de-energized prior to performing work.

f. Respiratory Protection: 29 CFR 1910.134

Respiratory protection is covered under a separate Respiratory Protection Program.

g. Occupational Noise Exposure: 29 CFR 1910.95; ANSI S3.19-1974

In the event that a Hazardous Workplace Assessment determines a need for hearing protection it will be provided. All ear protection will be in compliance with ANSI standards.

4. **Employee Training**

Prior to conducting work requiring the use of personal protective equipment, employees shall be trained to know:

a. When PPE is necessary;
b. What PPE is necessary;
c. How to properly don, doff, adjust and wear PPE;
d. What the PPE limitations are;
e. Proper care, maintenance, useful life, and disposal of assigned PPE.

Upon completion of the training, employees must be able to demonstrate an understanding of the training and the ability to use the PPE properly before they are allowed to perform work requiring the use of the equipment. Employees are prohibited from performing work without donning appropriate PPE to protect them from the hazards they will encounter in the course of that work. The immediate supervisor will work with the Health and Safety Specialist to develop and provide employee training. The supervisor is required to document the employee training; see Certification of Employee PPE Training Form, Appendix III.

Retraining will be required when:

a. Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill;
b. Changes in the workplace render previous training obsolete;
c. Changes in the type of PPE available render selection and training in PPE obsolete.

5. **Limitations**

The following should be kept in mind regarding personal protective equipment:

a. Personal Protective Equipment should not be used as a substitute for engineering controls and consistent safety practices;
b. One type of PPE will not provide protection against all hazards;
c. Some PPE may interfere with the performance of other PPE; an example is protective eyewear, which may interfere with the seal of a respirator or earmuff.

6. **Cleaning, Maintenance and Disposal**

It is important that all PPE be kept clean and properly maintained. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision. PPE should be inspected, cleaned, and maintained at regular intervals so that the PPE provides the appropriate protection. Personal protective equipment shall not be shared between employees until it has been properly cleaned and sanitized. PPE will be distributed for individual use whenever possible. Employees shall notify the supervisor for replacements as needed.

7. **Record Keeping**

Hazardous Workplace Assessments and employee training in PPE will be documented. The Health and Safety Specialist shall maintain the Hazardous Workplace Assessment Form for each work site evaluated. Written records shall be kept by the supervisor and Human Resources of the names of persons trained, the type of training provided, and the dates when training occurred.

8. **Plan Updating**

The Harford Community College Personal Protective Equipment Program shall be evaluated annually for its effectiveness in preventing employee injury and illness; it shall be updated as needed. Any employee injury, near-injury, or illness that could be the result of improper use of PPE shall require an evaluation of PPE program elements.

Appendix I
Glove Types and Descriptions

Type	Advantages	Disadvantages	Use Against
Natural Rubber	Low cost, good Physical properties, dexterity.	Not good to use with oils, greases, organics. Frequently imported; may be poor quality	Bases, alcohol, dilute water solutions. Okay for use with aldehydes, ketones.
Natural Rubber Blends	Low cost, dexterity, better chemical resistance	Physical properties are frequently inferior to natural rubber.	Same as natural rubber.
Polyvinyl Chloride	Low cost, very good physical properties, medium cost, medium chemical resistance	Plasticizers can be stripped, frequently imported may be poor quality.	Strong acids and bases, salts, other solutions, alcohol.
Neoprene	Medium cost, medium chemical resistance, medium physical properties	N/A	Oxidizing acids, anilines, phenol, and glycol ethers.
Nitrile	Low cost, excellent physical properties, dexterity.	Not good to use with benzene, methylene chloride, trichloroethylene, many ketones.	Oils, greases, aliphatic chemicals, xylene, perchloroethylene, trichloroethane, okay with toluene.
Butyl	Specialty glove, polar organics.	Expensive, poor against hydrocarbons, chlorinated solvents.	Glycol ethers, ketones and esters.
Polyvinyl alcohol	Specialty glove, polar organics.	Extremely expensive, poor physical properties, poor vs. some ketones, esters and amines.	Good to use with aliphatics, aromatics, chlorinated solvents, ketones (except acetone), esters and ethers
Fluoroelastomer (Viton)	Specialty glove, organic solvents.	Extremely expensive, poor physical properties, not good to use with some ketones, esters and amines.	Good to use with aromatics, chlorinated solvents, also aliphatics and alcohol.
Norfoil	Provide excellent chemical resistance.	Poor fit, easily punctures, poor grip, stiff.	Use for Hazmat work.

Maintenance Work Gloves

Type	Uses
Leather	Protects hands while performing general maintenance work
Welding	Protects hands from heat and welding sparks.
Voltage Protection	Protects against 7500 maximum use voltages.
Nitrile	Protects mechanic while working on vehicles.

Appendix II
Harford Community College
Workplace Hazard Assessment Form

Instructions: Use this form to help identify the Personal Protective Equipment required within each department. Multiple forms may be used, as needed, to include all work areas or job functions within each department.

Department: _Facilities Maintenance

1. Hazards Present	**2. Job Function**	**Personal Protective Equipment to Consider** (complete appropriate boxes with the specific PPE required e.g. splash goggles, face shields, gloves, etc)				
		Eye	**Hand**	**Head**	**Clothing**	**Foot**
Dust, Flying Particles	Woodworking, Grinding, Metalworking	**X**				
Impact	Low ceiling areas, flying particles	**X**		**X**		
Chemical Exposure	Working with Bromine and Soda ash	**X**	**X**		**X**	
Penetration	Low ceilings					
Heat	Welding, general maintenance					
Compression/ Rollover	Using hand truck, working with forklift, general maintenance work					**X**
Electricity	Repairing equipment, working with low voltage		**X**			X (electrician only)

Supervisors Signature: _____ Date: _____

Health & Safety Specialist: _____ Date: _____

Appendix III

Certification of Employee PPE Training

Employee Name:
_____

Department:
_____

I certify that I have received verbal training in Harford Community College's Personal Protective Equipment Program and that I am familiar with the following components of the program.

- Where to access a copy of the Personal Protective Equipment Program
- When PPE is necessary.
- What types of PPE are available and their uses and limitations.
- How to properly put on, take off, adjust, and wear PPE.
- Proper care, maintenance, useful life, and disposal of assigned PPE.

I also certify that I am able to demonstrate an understanding of the training and the ability to use the PPE properly.

Employee Signature:
_____

Trainer/ Supervisor signature:
_____

Date:
_____

Appendix IV
Protective Footwear Procedures

Persons Affected: Safety shoes or boots with impact protection will be provided to and worn by employees in work areas that pose foot impact hazards or where employees carry or handle heavy materials such as packages, parts or heavy tools which could be dropped. Safety shoes or boots with compression protection are required for work activities involving skid trucks or other activities where equipment could potentially roll over an employee's feet. Safety shoes or boots with puncture protection are required where sharp objects such as nails, wire, tacks, screws, metal scrap, etc., could be stepped on by employees causing a foot injury.

To assist those employees required to wear safety shoes, HCC will reimburse each employee $200.00 per year (before taxes). The following guidelines apply:

- Prior to being hired or transferred, each employee will be notified of the protective footwear requirement. New hires will receive the reimbursement when their probationary period ends. Their supervisor will be responsible for notifying Human Resources to pay the reimbursement.

- Each employee shall be responsible for maintaining the footwear purchased.

- The Health and Safety Specialist shall be notified in cases where the employee indicates s/he is unable to wear safety footwear due to medical problems or poor fitting. Exceptions to these rules for legitimate medical reasons shall be considered on an individual basis, and be made with the approval of the Vice President for College and Community Relations.

I have read and agree to the above college procedures.

_____ _____

Employee Signature Date

_____ _____

Supervisors Signature Date