

## SUNY Cortland – Environmental Health and Safety Office

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### Personal Protective Equipment Program

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## Personal Protective Equipment Program

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### I. Introduction

This document is the Personal Protective Equipment Program for SUNY Cortland, and it outlines requirements, guidelines, and other information involving use of personal protective equipment (PPE). This program complies with the following Occupational Health and Safety Administration standards related to PPE:

- 29 CFR 1910.95 – Occupational Noise Exposure
- 29 CFR 1910.132 – General Requirements
- 29 CFR 1910.133 – Eye and Face Protection
- 29 CFR 1910.134 – Respiratory Protection
- 29 CFR 1910.135 – Head Protection
- 29 CFR 1910.136 – Foot Protection
- 29 CFR 1910.138 – Hand Protection

PPE requirements and information are also outlined in SUNY Cortland's "Operational Services Unit's Policy for Protective Equipment/Dress for Personal Safety" and "Uniforms and Safety Shoe Programs Policy".

It is important to mention that this program does not promote use of PPE as the primary means of controlling hazards. Every effort should be made to eliminate hazards

before PPE is selected. When hazards cannot be eliminated, PPE is used in conjunction with engineering controls and other sound safety practices.

PPE is provided to employees without cost for certain job-related hazards; however, apparel and items such as winter coats, socks and sunglasses are generally supplied by employees. Tasks and processes for which specific PPE is required are indicated in department Hazard Assessments (see Section III), Job Hazard Analysis (see Section IV), and during other hazard reviews conducted by the Environmental Health and Safety (EH&S) Office. Employees are required to wear PPE whenever it is specified. In instances where an employee believes that certain PPE is required, but not specified, the employee or the department supervisor should contact the EH&S Office for assistance.

Employees receive PPE training in accordance with the protocol outlined in Section V of this program. Training is provided before employees are assigned to tasks, when they are given new assignments, and when it is determined that additional training is necessary.

While this program applies principally to employees, students are expected to observe the requirements and guidelines outlined in this program whenever they are applicable. The EH&S Office will assist faculty with implementing personal protective equipment programs for students.

## II. Responsibilities

**EH&S Office** – The EH&S Office is responsible for: 1) reviewing and updating this program; 2) evaluating this program's effectiveness; 3) conducting Hazard Assessments and developing Job Hazard Analysis (see Sections III and IV); 4) providing PPE training to employees; and 5) maintaining records related to PPE.

**Employees** – Employees must wear PPE whenever it is specified. Employees must also use PPE in accordance with instructions given during training. This includes proper care, storage and disposal of PPE. Employees must not wear PPE until appropriate training is provided.

**Faculty** – Faculty are responsible for: 1) providing PPE and requisite training to students; 2) enforcing proper use, maintenance and disposal of PPE; and 3) maintaining department Hazard Assessments (see Section III) and making them available to students.

**Students** – Students must wear PPE whenever it is specified. Students must also use PPE in accordance with instructions given during training. This includes proper care, storage and disposal of PPE. Students must not wear PPE until appropriate training is provided.

**Supervisors** – Supervisors are responsible for obtaining PPE for their employees and assisting them with PPE purchases. +Supervisors must enforce proper use, maintenance and disposal of PPE within the department. Supervisors must also maintain department Hazard Assessments (see Section III) and make them available to employees.

### **III. Hazard Assessments**

A hazard assessment is a formal evaluation of job-specific tasks or processes and their associated hazards or risks. Once a hazard assessment is performed, appropriate PPE is determined. While hazard assessments are principally performed by the EH&S Office, supervisors and employees also provide input for these assessments.

Hazard assessments are available in each department where PPE is required. The EH&S Office will discuss hazard assessments and PPE selection during training sessions. Supervisors are required to maintain department hazard assessments and make them available to their employees.

### **IV. Job Hazard Analysis**

A Job Hazard Analysis (JHA) is a document that provides written procedures to help eliminate job hazards, and reduce accidents, injuries, illnesses and incidents in the workplace. A JHA: 1) outlines basic steps for a specific task; 2) identifies the hazards associated with the task; and 3) identifies safe operating procedures and PPE to eliminate or reduce hazards. Supervisors and employees are requested to use these documents to identify appropriate PPE.

### **V. Training**

Employees receive PPE training before they start their job assignments, when job-related circumstances change, and when it is determined that additional training is necessary. Some PPE training is required on a more regular basis. For example, hearing conservation and respiratory protection training are required annually. Employees must not wear PPE until training is provided.

PPE training sessions convey: 1) required PPE for job-specific tasks; 2) how to properly put on, remove, adjust, and wear PPE; 3) limitations of PPE; and 4) proper care, maintenance, useful life, and disposal of PPE. Department hazard assessments and PPE selection will also be reviewed during training sessions. Employees will demonstrate that they understand all aspects of training during the training session.

### **VI. Eye and Face Protection**

Hazards where eye and face protection are required include:

- Impact – Impact hazards are flying fragments, objects, chips, particles, sand, and other debris from chipping, cutting, drilling, grinding, sanding, riveting, and masonry work.
- Heat – Heat hazards include high temperature exposures from furnace operations, gas cutting, welding, sparks, and molten metal splash.
- Chemical – Chemical hazards include exposures to solid, liquid, and gaseous substances. Specific hazard classes include corrosive and toxic chemicals.
- Pathogenic – Pathogenic hazards include exposures to blood, fecal matter and other potentially infectious material.
- Dust and Particulates – Dust and particulates include exposures to fine pieces of matter. Dust and particle hazards can be generated from woodworking, dusty conditions, or degradation of substances, materials and articles.
- Optical Radiation – Optical radiation hazards include ultraviolet, visible, and infrared radiant energies from welding, torch cutting, torch brazing, torch soldering, use of lasers, and glare from the sun and other light sources.

Employees are required to wear eye and face protection whenever it is specified. Employees can also ascertain required eye and face protection in the department hazard assessment (see Section III) and in task-specific JHAs (see Section IV). Supervisors must enforce the use of eye and face protection whenever it is required. While the use of eye and face protection applies principally to SUNY Cortland employees, students and visitors must also be given eye and face protection for the hazards identified in this section whenever it is necessary. Instruction on use, handling, storage, and disposal of eye and face protection is given during training.

Eye and face protection must not be stored in locations where it can be damaged or become contaminated. It is suggested that departments keep eye and face protection in a specially designated area such as a cabinet dedicated to PPE storage. Eye and face protection should be isolated from chemicals, extreme heat, or intense ultraviolet light. Eye and face protection should be cleaned regularly to ensure that vision is not impaired. Employees should also regularly examine eye and face protection for integrity. Eye and face protection should be replaced when it is broken, cracked, or degraded. Additionally, the manufacturer's specified replacement date must never be exceeded.

All devices designed to provide eye and face protection must comply with the *American National Standard Practice for Occupational and Educational Eye and Face Protection* (ANSI Z87.1-2003). All major components of ANSI-approved eye protection, except lenses, will be marked "Z87" to indicate compliance with the standard.

The following types of eye and face protection are used by employees:

**Safety Eyewear/Glasses** – Safety eyewear or safety glasses are used for impact and heat protection. This eyewear must have sideshields to restrict side entry of flying

particles. Safety eyewear should fit snugly and the nosepiece should not slide down the nose due to sweat or moisture. For a correct fit, eyewear should make contact: on the nose; at both temples; and at the cheekbone. Tasks and exposures where safety eyewear is required include: use of hand and power tools; certain electrical work; and construction activities. When prescription eyewear is required, employees may use safety eyewear that fits over prescription glasses. Employees may also use prescription safety eyewear that can be purchased through the employee's vision care plan.

**Goggles** – Goggles are used for impact, heat and optical radiation hazards, and to prevent contact exposures from chemicals, dust, and pathogenic agents. Employees should wear only unvented goggles or goggles with indirect vents for exposure to chemicals and pathogenic agents. When prescription eyewear is required, employees should only use goggles that are designed to fit over prescription eyewear. Employees should contact the EH&S Office if assistance is required for goggle selection.

**Faceshields** – A faceshield consists of a frame or headgear that supports a polycarbonate or mesh face cover. Specific hazards where a faceshield is required include:

- Impact and Dust Hazards - Airborne debris from use of chain saws, and cutting, drilling and grinding equipment. A faceshield with a polycarbonate or mesh face cover is suitable for impact hazards; however, a mesh face cover should be avoided for dust exposures.
- Heat and Radiation Hazards – Special purpose faceshields should be used for heat and radiation hazards.
- Chemical Hazards – Include highly toxic agents and corrosive substances (e.g., hydrochloric acid, sodium hydroxide). A faceshield with a polycarbonate face cover is suitable for chemical hazards.
- Pathogenic Agent Hazards – Include exposures to blood, fecal matter and other potentially infection material. A faceshield with a polycarbonate face cover is suitable for pathogenic hazards.

Faceshields should always be used with safety eyewear or goggles.

**Eye Protection for Welding, Torch Cutting, Torch Brazing, and Torch Soldering** – Goggles, helmets, and shields are used to protect the eyes from ultraviolet, visible, and infrared radiant energies that are produced from welding, torch cutting, torch brazing, and torch soldering. Employees should use filter lenses that give the maximum protection. As a rule, employees should start with a shade that is too dark to see the weld zone, and then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum protective shade number. Filter lens information published in 29 CFR 1910.133 is useful for determining shade number.

In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the spectrum operation. Employees should also contact the EH&S Office for assistance with lens selection.

**Eye Protection for Lasers** – Special eyewear is required to protect the eyes from lasers. Eyewear that provides maximum attenuation at specific laser wavelengths should be selected. Employees should also contact the EH&S Office for guidance on selection of appropriate eyewear for lasers.

**Sunglasses** – Sunglasses are recommended for employees who work outdoors and encounter problems with glare. Where impact hazards are present, employees should use safety sunglasses.

## VII. Respiratory Protection

Occupational exposures to dusts, fumes, gases, vapors and other airborne contaminants are managed by implementing chemical/product substitution, appropriate engineering controls, or administrative controls. When these controls are not effective or feasible for reducing harmful airborne exposures, respirators are specified for certain tasks. Requirements and guidelines involving use of respirators are outlined in SUNY Cortland's Respiratory Protection Program. Employees are expected to observe the requirements and guidelines in this program when respirators are used.

## VIII. Head Protection

Employees are required to wear protective helmets when there is a potential for injury to the head from falling objects, impact hazards, and certain electrical exposures. While protective helmets will provide a measure of protection from certain impact and electrical hazards, helmets should never be used as a substitute for sound safety practices and engineering controls. Protective helmets used within the workplace should comply with the *American National Standard for Industrial Head Protection* (ANSI Z89.1-2009).

Protective helmets are classified by impact type and electrical class as follows:

Type I – Helmets that are intended to reduce the force of impact resulting from a blow only to the top of the head.

Type II – Helmets that are intended to reduce the force of impact resulting from a blow to the top or sides of the head.

Class C – Helmets that are not intended to provide protection against contact with electrical hazards.

Class E – Helmets intended to reduce the danger of contact with low voltage conductors (proof-tested at 2,200 volts).

Class G – Helmets intended to reduce the danger of contact with higher voltage conductors (proof-tested at 20,000 volts).

Helmet type and class are indicated within the shell of a helmet. Employees should wear protective helmets that are suited to the hazards present in the work environment. Most protective helmets purchased at SUNY Cortland since 2005 are marked “Type I, Class E and G”. Employees are encouraged to contact the EH&S Office for assistance with protective helmet selection.

Processes and task-specific hazards for which protective helmets are required are outlined in department hazard assessments and in JHAs. Instruction on use, handling, storage, and replacement of protective helmets is given during training.

Protective helmets should be inspected before and after use for wear and damage. Helmets that are cracked, crazed, discolored, or that exhibit any other unusual conditions should be replaced, and helmet suspension should be replaced when cracks, breaks, frayed straps, or damaged stitching is identified. Additionally, it is important to remember that helmets should be replaced after no more than five years of use, and helmet suspension should be replaced after no more than 12 months of use; however, helmets that have sustained an impact or penetration should be replaced immediately. For care and maintenance, employees should clean helmets with mild soap and warm water, or with a cleaner identified by the helmet manufacturer. Finally, helmets should be stored in a clean, dry environment.

## **IX. Foot Protection**

Protective footwear is provided to employees when there is a potential for foot injury due to falling or rolling objects, or objects piercing the sole. Protective footwear is also provided to employees for certain electrical exposures. Footwear that is used for the aforementioned hazards must comply with ANSI Z41-1991. This footwear contains a protective toe box which commonly consists of either steel, reinforced plastic, or hard rubber. Employees who require protective footwear receive an annual subsidy to purchase safety shoes. The EH&S Office will assist employees with selecting appropriate protective footwear. It is important to mention that employees also receive special footwear for slip hazards, chemical exposures, pathogenic exposures, exposures peculiar to smelting and foundry work, and hazards associated with certain weather conditions. Footwear used for these exposures do not pertain to this section of the program.

Processes and task-specific hazards for which protective footwear is required are outlined in department hazard assessments and in JHAs. Additional information

pertaining to safety and protective footwear is provided during formal and informal trainings session.

Employees should regularly inspect their protective footwear for integrity. Footwear that is defective or that exhibits excessive signs of wear should be replaced.

## **X. Hand Protection**

Employees are required to use hand protection when hands are exposed to hazards associated with: skin absorption of harmful substances; cuts or lacerations; abrasions; punctures; chemical exposures; pathogenic exposures; thermal burns; temperature extremes; and electrical shock.

No single glove can provide adequate protection for every hazard or exposure; therefore, it is important to assess the nature of the hazard(s) associated with specific tasks and select a glove that will provide sufficient protection. In certain instances, use of multiple gloves might be necessary. The EH&S Office will assist employees with selecting gloves that are appropriate for specific tasks. Additionally, processes and task-specific hazards for which gloves are required are outlined in department hazard assessments and in JHAs. When selecting gloves, it is also important to consider size. Gloves should be large enough to ensure movement of the hand, but tight enough to provide protection and prevent the glove from slipping off the hand.

Employees should inspect their gloves for integrity before and after each use. This includes checking gloves for tears and holes. Employees should immediately discard gloves that are damaged or that exhibit signs of degradation. Glove care also includes cleaning with soap and water or decontamination with a suitable disinfectant or cleaning agent. Some gloves are intended for single use only (e.g., disposable nitrile gloves). These gloves should be disposed of after initial use. Additionally, gloves intended for protection from certain hazards should be maintained in accordance with manufacturer's recommendations. For example, gloves used for shock or arc flash protection should be returned to the manufacturer at scheduled intervals for service. Aside from these inspection and care requirements, gloves should be stored in clean, dry designated areas where they cannot become contaminated.

## **XI. Hearing Protection**

According to the OSHA standard on occupational noise exposure (29 CFR 1910.95), employers are required to implement a hearing conservation program when employee noise exposures equal or exceed an 8-hour time-weighted average sound level of 85 decibels. Additionally, when engineering or administrative controls are not feasible or effective for reducing time-specified noise exposures that are outlined in the OSHA standard, personal protective equipment must be provided to employees to reduce noise exposures to acceptable levels\*. Requirements and guidelines for hearing conservation are outlined in SUNY Cortland's Hearing Conservation Program.

Employees are required to observe the requirements and guidelines outlined in this program.

\*Note: refer to Table G-16 in the OSHA Occupational Noise Exposure standard.

## **XII. Other Personal Protective Equipment**

Aside from PPE for the hazards discussed in Sections VI to XI of this program, employees receive PPE for other exposures. This PPE includes: chemical protective clothing; clothing for thermal burns and extreme temperatures; clothing for electrical exposures; clothing for pathogenic agents; and clothing for adverse weather conditions. Required PPE of this nature is outlined in department hazard assessments and JHAs. The EH&S Office will assist departments with determining appropriate task and job-specific PPE. In instances where an employee believes that certain PPE is required, but not specified, the employee or the department supervisor should contact the EH&S Office for assistance.

All PPE should be regularly inspected. PPE that is excessively worn or degraded should be replaced, and PPE that is unclean or contaminated should be washed or sterilized with a suitable cleaning agent. Additionally, PPE should be stored in clean, dry designated areas where it cannot become contaminated.