

Northwestern

Personal Protective Equipment

Environmental Health and Safety

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## I. Purpose

This program establishes the framework to reduce the risk of injury and illness by using the [hierarchy of controls](#) to eliminate or control hazards. Personal protective equipment (PPE), such as gloves, glasses, face shields, shoes, earplugs, hard hats, respirators, and coveralls, are not a substitute for more effective control methods, and use will be considered only when more effective means of protection are not adequate or feasible. PPE must be used in conjunction with other control methods unless no other means of hazard control exists.

## II. Scope

This program applies to all Northwestern faculty, staff, students, contractors, and visitors who have the potential for exposure to physical, chemical, radiological, electrical, mechanical, biological, or other workplace hazards on campus property, including leased spaces, based on their job duties, activities, or environment. This program does not preclude the addition of more stringent PPE requirements for specific activities or environments. Contact [Research Safety](#) for PPE requirements in research spaces such as laboratories.

## III. Responsibilities

### A. Environmental Health and Safety (EHS)

- i. Adhere to the requirements of this program.
- ii. Review and revise this program, as necessary.
- iii. Conduct, review, and update PPE hazard assessments in collaboration with schools and units in non-research areas, as needed (see **Section V – Hazard Assessments**).
- iv. Coordinate and/or administer training (see **Section VII – Training**).
- v. Provide consultation and guidance to schools and units, as necessary and upon request, to identify hazards and evaluate the need for controls utilizing the hierarchy of controls, including the selection and use of appropriate PPE.

### B. Schools and Units

- i. Adhere to the requirements of this program.
- ii. Ensure employees and students complete all required training (see **Section VII – Training**).
- iii. Collaborate with EHS to perform, review, and update PPE hazard assessments, and share assessments with applicable individuals periodically, when updated, and upon hire.
- iv. Provide resources and funding for PPE deemed necessary by PPE hazard assessments, safe operating procedures, job hazard analyses, safety data sheets, equipment manufacturers, EHS, and/or applicable regulations.
- v. Provide resources and funding to maintain PPE, including any required inspections, repairs, and replacement of worn, damaged, or expired PPE.
- vi. Maintain a sufficient inventory of PPE based on reasonably anticipated use and situations.
- vii. Ensure individuals are provided with and wear the appropriate PPE when required by PPE hazard assessments, safe operating procedures, job hazard analyses, safety data sheets, equipment manufacturer, EHS, and/or applicable regulations.

- viii. Notify affected parties (e.g., contractors) of any worksite, area, task, or equipment PPE requirements and report non-compliance to EHS.
  - ix. Notify EHS of any new, changed, or previously unassessed processes, tasks, chemicals, worksites, or equipment that have potential hazards that may require PPE or change PPE requirements.
  - x. Not required to provide the following PPE, but may use discretion in doing so:
    1. Non-specialty safety-toe protective footwear and non-specialty prescription safety eyewear.
    2. Everyday clothing (e.g., long-sleeve shirts, long pants, street shoes, and normal work boots).
    3. Ordinary clothing, skin creams, or other items, used solely for protection from the weather (e.g., winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen).
    4. Items such as hair nets and gloves worn by food workers for consumer safety.
    5. Lost or intentionally damaged PPE in need of replacement.
- C. Staff, Faculty, Students, and Visitors**
- i. Adhere to the requirements of this program.
  - ii. Complete all required training (see **Section VII – Training**).
  - iii. Properly care for, clean, maintain, and wear all assigned PPE as required by PPE hazard assessments, safe operating procedures, job hazard analyses, safety data sheets, equipment manufacturers, EHS, and/or applicable regulations.
  - iv. Inform supervisors or EHS when PPE needs repair, replacement, or inspection, or is no longer suitable for the application.
  - v. Adhere to any and all specific worksite PPE requirements (e.g., contractor-controlled renovation and construction worksites and laboratories).
- D. Contractors**
- i. Adhere to the requirements of this program.
  - ii. Ensure subcontractors adhere to the requirements of this program.
  - iii. Ensure employees complete all required training (see **Section VII – Training**).
  - iv. Provide employees with all required PPE.
  - v. Ensure employees and subcontractors properly care for, clean, maintain, and wear all assigned PPE as required.
  - vi. Ensure individuals adhere to any and all specific worksite PPE requirements (e.g., renovation and construction worksites and laboratories).
  - vii. Inform affected parties (e.g., Northwestern employees and subcontractors) of any worksite, area, task, or equipment PPE requirements and report non-compliance to project managers or EHS.

## IV. Hierarchy of Controls

- A. The [hierarchy of controls](#) must be utilized to protect individuals from hazards, with priority given to the most effective solution(s), when feasible. The order of hazard controls from most to least effective is as follows:
- i. Elimination (i.e., physically removing the hazard)
  - ii. Substitution (i.e., replacing the hazard)
  - iii. Engineering controls (i.e., isolating individuals from the hazard)

- iv. Administrative controls (i.e., changing the way individuals work)
  - v. PPE (i.e., protecting the individual with equipment)
- B. When hazard elimination, substitution, engineering controls, and/or administrative controls are not feasible or do not provide sufficient protection from the hazard(s), PPE must be utilized.

## V. Hazard Assessments

- A. PPE hazard assessments are conducted by EHS in collaboration with schools and units to identify tasks, worksites, and equipment that require PPE, and provide guidance on the proper selection of PPE.
- B. PPE hazard assessments must be communicated to applicable individuals periodically, when updated, upon hire, and as necessary through the appropriate information-sharing methods (e.g., electronic and bulletin boards).
- C. PPE hazard assessments must be readily available to applicable individuals.
- D. Alternative methods (e.g., safe operating procedures and job hazard analyses) may be utilized to identify PPE requirements in situations such as non-routine tasks or emergency situations but must be communicated to applicable individuals before the commencement of work, as necessary.
- E. PPE hazard assessments must be reviewed every 3 years and updated as necessary, and under any of the following conditions:
  - i. There are any new, changed, or previously unassessed processes, tasks, chemicals, worksites, or equipment that have potential hazards that may require PPE or change PPE requirements.
  - ii. Different PPE is introduced.
  - iii. An incident (e.g., injury) has occurred.
  - iv. Changes in regulatory requirements or best practices.
  - v. An employee or student request.

## VI. Requirements

- A. General
  - i. PPE must meet the appropriate current industry and regulatory standards, including but not limited to, the American National Safety Institute (ANSI), the National Institute of Occupational Safety and Health (NIOSH), and the National Fire Protection Association (NFPA).
  - ii. PPE must fit individuals comfortably and not interfere with other PPE, clothing, or equipment, inhibit the ability of the individual to perform tasks, or otherwise create a new hazard.
  - iii. PPE must be used in the following circumstances:
    - 1. When required by this program.
    - 2. When the implementation of hazard elimination, substitution, engineering, or administrative controls that would no longer require the use of PPE is not complete.
    - 3. During short-term, non-routine, or emergency (e.g., spills) operations where hazard elimination, substitution, engineering, or administrative controls are not practical or feasible.
- B. Selection

- i. PPE must meet the requirements of this program.
- ii. PPE selection is based on the PPE hazard assessment, safe operating procedure, job hazard analysis, equipment manufacturer, safety data sheet, applicable regulations, and/or in consultation with a qualified safety professional (e.g., EHS personnel).
- iii. PPE must adequately protect against the hazards for which they are selected, taking into consideration the hazards; task requirements; work area; potential for PPE failure; maintenance and inspection requirements; interferences with other PPE, clothing, equipment, and tools; durability; availability; regulatory requirements; and the user's size and physical abilities for fit, comfort, and individual needs.
- iv. PPE requirements for common hazards include:
  - 1. Head protection (e.g., hard hat) is required when exposed to hazards including, but not limited to, falling and moving objects, exposed electrical conductors, low clearance areas, and other impact hazards.
  - 2. Eye and face protection (e.g., safety glasses, goggles, and face shields), which must accommodate prescription lenses, either by fitting over prescription lenses or by incorporating them into its design, is required when exposed to hazards including, but not limited to, flying particles, dust, molten metal, chemical splashes, gases, mists, vapors, biological agents, and light radiation. Side protection is required when there is a potential for flying objects.
  - 3. Hearing protection (e.g., ear plugs) is required for those enrolled in the [Northwestern Hearing Conservation Program](#) who have been determined to be exposed to, or have the potential to be exposed to, occupational noise at or above the regulatory action level or permissible exposure level. Hearing protection is encouraged for those not enrolled in the program but who may be exposed to elevated levels of noise.
  - 4. Respiratory protection is required for those enrolled in the [Northwestern Respiratory Protection Program](#) who have been determined to be exposed to, or have the potential to be exposed to, respirable hazards (e.g., dust) at or above the action level or permissible exposure level. Those who choose to use respiratory protection when it has been determined that respiratory protection is not required must adhere to the voluntary use provision in the Northwestern Respiratory Protection Program.
  - 5. Hand protection is required when exposed to hazards including, but not limited to, skin absorption of harmful substances, cuts or lacerations, abrasions, punctures, chemical burns, thermal burns, biological agents, and temperature extremes.
  - 6. Foot protection (e.g., steel-toe shoes and boots) is required when exposed to hazards including, but not limited to, rolling or falling objects, electrical hazards, hot surfaces, slippery surfaces, and punctures.

7. Knee protection (e.g., knee pads) is required when tasks require frequent kneeling, crawling, or contact with hard surfaces, or when exposed to hazards including, but not limited to, lacerations, punctures, or abrasions from sharp objects (e.g., nails).
8. PPE for electrical work (e.g., arc-flash-rated clothing, gloves, and sleeves) is required when there is potential exposure to electrical hazards (see NFPA 70E Informative Annex H Guidance on Selection of Protective Clothing and Other Personal Protective Equipment).
9. Body protection (e.g., aprons, protective coveralls, lab coats, disposable medical gowns, disposable shoe/boot coverings, welding aprons and sleeves, chainsaw chaps, and high-visibility safety vests) is required when exposed to job-specific or unique hazardous situations.

C. Procurement

- i. Most PPE can be obtained from Northwestern's [preferred vendors](#).
- ii. Schools and units are encouraged to consult EHS prior to procuring PPE to ensure it meets the requirements of this program.
- iii. Select schools and units may have programs for personal or specialty PPE (e.g., prescription safety glasses, and safety footwear); individuals are encouraged to engage their supervisors to learn more.
- iv. PPE provided by individuals must meet the requirements of this program, and schools and units are not required to provide reimbursement.

D. Storage

- i. PPE must be properly stored in accordance with manufacturer guidelines and applicable regulations to protect against environmental conditions that might degrade or reduce the effectiveness of the equipment or result in contamination during storage.
- ii. PPE that has a shelf-life limitation (e.g., respirator cartridges) must be inspected periodically to ensure compliance with the expiration date.

E. Cleaning and Maintenance

- i. Users are responsible for inspecting, cleaning, and maintaining assigned PPE for their exclusive use.
- ii. PPE must be inspected before each use for defects and operability, and inspected, cleaned, and maintained at regular intervals and in accordance with manufacturer guidelines and applicable regulations.
- iii. PPE that is damaged, expired, excessively worn, or otherwise in a condition that has affected or has the potential to affect its performance in protecting the user from the associated hazards must not be used.
- iv. PPE that requires specialized inspections or service by the manufacturer or regulations (e.g., arc-flash-rated PPE) must be done so by qualified personnel.
- v. PPE subject to use by more than one individual, such as visitor PPE (e.g., safety glasses and earmuffs), must be properly cleaned and maintained in accordance with this section by a designee or the last user, at the discretion of the school or unit.
- vi. When cleaning of PPE is not feasible (e.g., thermal and leather gloves), users should wash their hands or use hand sanitizer before and after use.

- vii. PPE intended for emergency use (e.g., spill kits) must be maintained in accordance with this section and inspected periodically to ensure compliance with this program.

F. Disposal

- i. Uncontaminated PPE can typically be discarded in the regular trash.
- ii. Contaminated PPE must be disposed of as follows:
  - 1. PPE contaminated with hazardous chemicals disposed of in the appropriate chemical waste container.
  - 2. PPE contaminated with radioactive material disposed of in a solid waste container designated for that radioactive material.
  - 3. PPE contaminated with biological materials disposed of in the appropriate biohazard waste container.
- iii. Consult EHS or Northwestern's hazardous waste disposal vendor for guidance (refer to the [Northwestern Hazardous Waste Program](#)).

## VII. Training

A. Northwestern faculty, staff, and students

- i. When required to wear PPE by their school or unit, EHS, or this program, must be trained on the following:
  - 1. When PPE is necessary,
  - 2. What PPE is necessary,
  - 3. PPE limitations,
  - 4. How to properly don, doff, adjust, and wear PPE, and
  - 5. The proper care, maintenance, useful life, and disposal of the PPE.
- ii. Biennial online [PPE training](#) in myHR Learn is the primary method of training, however, alternative training methods may be utilized to satisfy the requirements of this section, including unique and non-routine situations requiring the use of specialized PPE.
- iii. When there is potential exposure to hazardous chemicals, individuals must also complete training in accordance with the [Northwestern Hazard Communication Program](#).
- iv. Individuals who use respiratory PPE must also complete training in accordance with the [Northwestern Respiratory Protection Program](#).
- v. Individuals required to use hearing PPE must also complete training in accordance with the [Northwestern Hearing Conservation Program](#).
- vi. Individuals required to use fall protection PPE must also complete training in accordance with the [Northwestern Fall Protection Program](#).
- vii. Individuals engaged in hot work activities requiring the use of PPE must also complete training in accordance with the [Northwestern Welding, Cutting, and Brazing \(Hot Work\) Program](#).

- B. Contractors are responsible for ensuring that personnel, including subcontractor personnel, have the proper knowledge and adequate training to utilize PPE in alignment with this program and the Occupational Safety and Health Administration ([OSHA](#)) [29 CFR 1910 Subpart I – Personal Protective Equipment](#). Proof of training must be available upon request.



- C. Retraining is required when an individual who has already been trained has been determined not to have the necessary understanding and skills. Circumstances where retraining is required include, but are not limited to, when:
  - i. Changes in the workplace or types of PPE to be used render previous training obsolete,
  - ii. Inadequacies in an individual's knowledge or use of assigned PPE indicate that they have not retained the requisite understanding or skill,
  - iii. An individual is found to not comply with the requirements of this program, or
  - iv. An individual is involved in a PPE-related accident (e.g., hand laceration injury while not wearing gloves).

## VIII. Recordkeeping

- A. Training records will be maintained by EHS in myHR Learn and kept for the duration of employment, plus 1 year.
- B. PPE hazard assessments must be maintained and made readily available by schools, units, and EHS so long as they are still applicable.
- C. PPE inspection, maintenance, and repair records, when PPE requires such inspection, maintenance, or repairs, must be retained by the school or unit for the duration that the PPE is in use.

## IX. Regulatory Authority and Related Information

Northwestern and contractors will comply with the Occupational Safety and Health Administration's (OSHA) standards and any other applicable codes and standards, including:

[National Fire Protection Association \(NFPA\) 70E, Standard for Electrical Safety in the Workplace](#)  
[Northwestern Fall Protection Program](#)  
[Northwestern Hazard Communication Program](#)  
[Northwestern Hazardous Waste Program](#)  
[Northwestern Hearing Conservation Program](#)  
[Northwestern PPE Poster](#)  
[Northwestern Respiratory Protection Program](#)  
[Northwestern Welding, Cutting, and Brazing \(Hot Work\) Program](#)  
[OSHA 29 CFR 1910 Subpart I – Personal Protective Equipment](#)  
[OSHA Fact Sheet 3603 – Personal Protective Equipment](#)  
[OSHA Hierarchy of Controls](#)  
[OSHA Publication 3151-12R – Personal Protective Equipment](#)

## X. Contact

For questions, contact Environmental Health and Safety at [ehs@northwestern.edu](mailto:ehs@northwestern.edu).