

Shop Safety

Purpose

The purpose of this program is to provide procedures to identify, eliminate, and control hazards while working in university shops. It also establishes safe work practices for shops and apply to all employees and students who use them. This program prescribes describes the roles, responsibility, and authority of various stakeholders. It applies to all university departments that have a designated shop area that includes any machine equipment defined below. This program does not apply to shops in Tyler School of Art and Architecture or the Office of Facilities Management, which have their own respective programs.

Definitions

- **Monitor:** An individual who has been designated by the Shop Supervisor to observe others working in the shop to ensure a safe work environment is maintained.
- **Shop:** A space where materials are fabricated, maintained, modified, repaired, or tested, including:
 - o Academic shops in which student instruction and use are major components
 - o Professional shops in which research support and fabrication are major components.
- **Shop Equipment:** Fixed machinery and portable hand/power tools typically used within a shop environment.
- **Shop Supervisor:** A staff or faculty member appointed by the department with responsibility for the safety and overall condition of the shop.
- **Shop User:** A user, either Temple University student, faculty, or staff, of the shop.

Responsibilities

Environmental Health & Radiation Safety

- Ensuring implementation and compliance with this program.
- Auditing the shop program periodically.
- Conducting workplace assessments to determine how shop hazards can be eliminated, prevented, and/or controlled.
- Assisting with incident investigations.
- Assisting with shop safety training.

Shop Supervisors

- Enforcing the requirements of this program.
- Designating Monitors to observe Shop Users and report unsafe conditions.
- Authorizing Shop Users and revoking authorization when necessary.
- Administering an appropriate shop-specific orientation and equipment safety training program.
- Attending the general EHRS Shop Safety training course.
- Enforcing shop-specific safety rules.
- Conducting incident investigations.
- Recording Shop User authorization and training.

Monitors

- Enforcing the requirements of this program.
- Enforcing shop-specific safety rules.
- Observing Shop Users and correcting unsafe conditions.
- Attending the general EHRS Shop Safety and shop-specific training and orientation courses.

Shop Users

- Following the requirements of this program.
- Attending the general EHRS Shop Safety and shop-specific training and orientation courses.
- Complying with shop safety rules.
- Promptly reporting unsafe conditions to the Monitor or Shop Supervisor.

Authorization

Authorization gives a Shop User permission to use a shop and it may list specific restricted Shop Equipment and/or activities. Authorization levels may vary between Shop Users. The Shop Supervisor determines the level of authorization for each Shop User based on training and experience.

Authorization must be documented, and Shop Supervisors are encouraged to develop and use an authorization form customized to their needs.

A hazard analysis of the most common types of Shop Equipment used in Temple University shops is available from EHRS. The Shop Equipment Hazard Classification Matrix has resulted in various pieces of Shop Equipment being placed into one of three hazard categories: low, medium, or high. The matrix details several shop requirements associated with each hazard category.

Monitoring

Monitoring of shop activities is essential in minimizing the potential for injury. Monitors must be capable of identifying existing and potential hazards and have the authority to take prompt action to correct them.

Staff, faculty, and students may serve as Monitors. Shop supervisors may also serve as Monitors.

Education, training, or previous experience within a shop environment must be used to determine Monitor competency. The Shop Equipment Hazard Classification Matrix lists when monitoring is required, depending upon the hazard level and Shop User type.

PPE Assessment

Shops must have a documented assessment that specifies if hazards are present, or are likely to be present, which necessitate the use of PPE.

Machine Guarding

Moving machine parts have the potential to cause severe injuries. When the operation of a machine or accidental contact could injure the Shop User, the hazard must be eliminated or controlled through machine guarding. Machine guarding must not be disabled or altered from its intended use. Guards must be inspected prior to use to ensure they are not defective. Fixed equipment must be anchored to prevent moving.

Lockout/Tagout

The release of hazardous energy during equipment service or maintenance can cause severe injuries. To prevent unexpected startup or release of hazardous energy during these activities energized equipment must be locked and tagged out. A Lockout/Tagout program requires additional training and procedures. Contact EHRS for guidance.

Continuous Assessment

Shop Supervisors and Shop Users must continually assess the shop for hazardous conditions and either correct them immediately or report them for corrective action.

Pre-Use Inspections

Pre-use inspections are required for all Shop Equipment. Pre-use inspections ensure equipment meets minimum acceptable safety requirements. The inspections are conducted by the Shop User and involve a cursory look at the physical condition of the equipment, as well as a check of any machine guards. It should also include reviewing safe work practices and procedures, including the emergency action plan for emergency shutdown, and non-routine start-ups.

Safety Audits

EHRS will periodically audit the shop safety program. The audit will evaluate compliance with, but not limited to:

- Training
- PPE
- Recordkeeping

Incident Investigations

The Shop Supervisor, in collaboration with EHRS, must conduct an incident investigation in the event of an injury, near miss or other serious incident. The investigation will include an evaluation of both the process and work practices to identify areas of improvement to prevent a reoccurrence.

Any corrective actions generated because of the incident investigation must be implemented immediately. Retraining for all Shop Users will be conducted as needed.

Training

General Shop Safety Training

All Shop Users must attend the general Shop Safety course offered by Environmental Health and Radiation Safety. The Shop Safety training course covers:

- Chemical Hygiene
- Chemical Waste
- Electrical Safety
- Hazard Communication
- Ladder Safety
- Machine Guarding
- PPE
- Respiratory Protection Awareness

Instructions for taking the Shop Safety training course can be found [here](#).

Shop Orientation

Shops must employ procedures for working safely. The procedures must be outlined in an orientation for new Shop Users prior to working in a shop. At a minimum, the orientation must cover:

- The nature of the shop hazards in the work area and how to recognize and minimize them
- Personal conduct while in the shop
- Required PPE, including how to use it, its limitations, proper care, and disposal

- Working alone or after hours
- Dress code
- Emergency procedures, including location of Safety Data Sheets, emergency eyewash stations, fire extinguishers, and first aid kits
- Housekeeping

Shop Equipment-Specific Training

Shop Users must receive Shop Equipment-specific training and demonstrate competency on the equipment to the Shop Supervisor prior to use. At a minimum, training must cover:

- Basic operations and safe use procedures
- Location of equipment emergency stop buttons

Documentation

The Shop Supervisor will maintain training records. The records must contain:

- The subject covered
- The name and signature of the Shop User trained
- The date(s) of training
- The name and signature of the person who conducted the training

Retraining

Retraining must occur whenever:

- New Shop Equipment is acquired, or a new process is used
- A Shop User demonstrates deficiencies in their knowledge or actions
- An inspection reveals retraining would improve shop safety
- Per Shop User request

Recordkeeping

Shop Supervisors are responsible for maintaining their own safety-related records. Records include:

- Authorization levels for Shop Users
- Documentation from safety training
- Results of safety audits
- Calibration, repair, and maintenance records of Shop Equipment