

Health and Safety Manual

Virginia Wadsworth Wirtz Center for
Performing Arts

Northwestern University

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Preface:

All employees of the Virginia Wadsworth Wirtz Center for the Performing Arts are required to read this manual before beginning work with the Wirtz Center.

Hazards in the workplace can be broken down into two general categories: safety hazards and health hazards. Safety hazards are potential accidents that can result in an immediate injury or property damage. There are two basic types of health hazards: acute and chronic. Acute health hazards have immediate effects. Chronic health hazards happen over time through repeated exposures to a toxic substance: symptoms may only become apparent after years of repeated exposure. All employees will receive training to be able to understand the variety of hazards associated with work at the Wirtz Center.

Manual Objectives:

This manual is designed for the staff and students working in the shops and on the stages of Wirtz, and is a summary of the basic safety procedures and safeguards associated with the workplace. This manual was developed in accordance with guidelines created by Northwestern University's Office of Environmental Health and Safety (EHS). The information in this manual is intended to provide a general overview of health and safety guidelines, and is not intended to give comprehensive training.

For additional information, refer to the Employee Safety Handbook distributed by EHS, available on their website.

Safety Policies:

It is the policy of Wirtz to maintain a safe, healthy, and productive working environment for its staff, faculty, students, and guest artists, as well as a safe and healthy facility for its visitors and patrons. Operations shall be conducted within accepted health and safety standards and in compliance with applicable regulations set down by the Occupational Safety and Health Administration (OSHA).

The Wirtz Center abides by all guidelines established by EHS's safety programs. Each department has been assigned a set of EHS programs that its staff members must read and understand. Listed below are some of the more important programs that relate to all Wirtz Staff, and some supplemental information about implementation of these programs within Wirtz:

General Safety Guidelines:

1. Observe all Wirtz safety and health rules and apply accident prevention to day-to-day work practices.
2. Report any unsafe conditions, procedures, or situations in the shops, theatres, or offices.
3. Operate only the equipment for which you are properly trained and authorized.
4. Know the location of fire exits, first aid kits, and fire extinguishers. Refer to Appendix A of this manual for information about Wirtz's Emergency Evacuation Plan.
5. Keep all emergency equipment such as fire extinguishers, fire hoses, and fire alarm pull stations clear of obstructions at all times.
6. Do not block open any doors.
7. If an injured person is bleeding, only those who have received bloodborne pathogen training shall administer first aid, assist, or transport the injured person.
8. Never work under the influence of drugs or alcohol. The use of alcohol and drugs on the job is strictly prohibited.

9. Inform your supervisor if you are taking any medications that will induce drowsiness or slow your reactions. Do not use power tools or work at heights while on these medications.
10. Do not work if you lack proper sleep or nutrition. Take scheduled breaks to help reduce fatigue. Do not skip meals.

Accident Prevention Program:

1. Using guidelines established by EHS, the shops have developed a comprehensive training program for all tools and equipment used in the Wirtz Center (see Appendix B).
2. If you are asked to use a tool or piece of equipment for which you have not been trained, inform your supervisor and they will review the equipment with you.
3. The shops have developed a comprehensive inspection plan for tools and equipment used in the Wirtz Center (see Appendix C).
4. Inspect each tool or piece of equipment before use: if it is damaged in any way, alert your supervisor so they can begin the repair process.
5. If you break something, do not try to hide your mistake: alert a supervisor so they can begin the repair.
6. If you feel that you are too tired or not mentally alert enough to perform a task, inform your supervisor. There is no punishment for admitting you are not prepared for a task: it is preferable to know your limits and remain safe.

Accident Reporting Procedures:

1. Any injury requiring first aid or other medical treatment must be reported to the Area Supervisor.
2. The Area Supervisor will contact EHS and the Production Manager.
3. The Area Supervisor will fill out an Accident Report Form as soon as possible after the injury (but no later than 24 hours after the injury has occurred). Send the original to EHS, and give a copy to the Production Manager.
4. The Production Manager will alert the Managing Director, who will then determine if the Dean's office needs to be notified.
5. A copy of the accident report will be kept on file by the Area Supervisor and by the Production Manager.

Emergency Response Training:

The following training will be conducted by EHS for all staff, graduate students working in the shops or backstage, and house management staff. Mainstage Stage Managers, work-study students, and additional staff will be trained as necessary:

1. CPR (Cardio Pulmonary Resuscitation)/AED (Automated External Defibrillator) and first aid training which includes Bloodborne Pathogen training.
2. Fire extinguisher training and general fire safety.

Additionally, a tour of the facility will be given by the Production Manager or Department Supervisor to all employees to become familiar with:

1. The location and use of fire extinguishers, first aid kits, eye wash stations, telephones, and light switches
2. The locations of exterior exits, evacuation routes, and alternate evacuation routes.

Note that evacuation routes, fire alarm stations, and fire extinguisher locations are posted throughout the building.

Fire Prevention:

Wirtz follows all guidelines established by EHS's Fire Prevention program. Additional information about Wirtz's fire prevention efforts:

1. Flammable cabinets are located in the spray area of the prop shop.
2. Treat scenery, properties, and costumes that may come in contact with an open flame with a flameproofing material.
3. Stage crew will be provided with the means to immediately extinguish any flame carried on or off stage during a rehearsal or performance.
4. Scenery and curtains must always have proper clearance from lighting instruments.
5. Wirtz is a smoke-free work place. Smoking is prohibited in all interior spaces except on stage when an actor is directed to smoke as part of the action of the play, and the action has been approved by the Fire Marshal.

Production Facilities:

Use of production facilities is not permitted prior to 7:00am or after 11:30pm unless approved by the Production Manager. The operating hours of each shop vary; consult with the Area Supervisor for information about when their shop is open.

Scene Shop/Prop Shop:

Rules and Training:

The safety programs developed by EHS encompass many of the rules and best practices that apply to work in the scene shop and prop shop. Wherever EHS's programs have required more specificity, these shops have developed supplemental programs that further explain the rules. These training programs can be found in the Training binder in the shop office, or in Appendix B of this manual.

For categories where an entire supplemental training program is unnecessary, but some rules still needed to be addressed, the shops have compiled a document called "Shop Rules". This document can be found in Appendix D of this manual.

All scene/prop shop rules, training, and inspections follow guidelines established by OSHA, the American National Standards Institute (ANSI), and the Entertainment Services and Technology Association (ESTA).

Inspections:

Inspection requirements have been developed in accordance with policies instituted by EHS. Inspections are carried out by shop staff according to the inspection schedule in Appendix C of this manual.

Stages:

The shops have developed policies for those working onstage or backstage during a production. These policies can be found in the Stage Safety Orientation in Appendix E of this manual.

Paint Shop:

There are many types of chemicals, paints, dyes, adhesives, stains, and solvents used in the paint shop. Some are non-toxic, acrylic or latex water-based paints but others can produce toxic vapors that are very harmful and extremely flammable. Consult the MSDS (Material Safety Data Sheet) for proper handling and storage of each product. Caution should be exercised when using any type of chemical.

There are four ways that a chemical can enter your body: inhalation, skin contact, ingestion, or injection. Take steps to minimize your exposure. Work in properly ventilated areas; in front of the exhaust hood in the prop area, under the welding hood, or outside - **NOWHERE ELSE!** Wear proper personal protection equipment (respirator, eye protection, gloves, etc.) when needed. Wash your hands. Do not eat, drink, or smoke around chemicals.

1. Keep your work place clean.
2. Know what you are working with. Read the MSDS on the product before using it.
3. Wear proper protective equipment for each task: respirator, eye protection, gloves, etc.
4. Eye protection must be worn when pouring or mixing chemicals.
5. A particle mask and goggles are required when spraying acrylic and latex paints.
6. Goggles should be worn when painting overhead or spraying.
7. Spray paint should only be used in front of the exhaust hood in the prop area, under the welding hood, or outside. When you are using the exhaust hood, make sure that the exhaust fan is turned on. See the department or shop supervisor for proper disposal of empty spray cans.
8. Solvents such as paint thinner, lacquer thinner, alcohol, and acetone must be used in front of the exhaust hood.
9. Smoking or open flame is not permitted when working with chemicals.
10. Clean up paint spills immediately.
11. In the case of a chemical spill, notify your supervisor immediately.
12. Waste chemicals must be disposed of properly. See the shop supervisor for instruction.
13. Clean work area, all buckets, brushes, and rollers when finished painting or working with chemicals.
14. Block access to wet painted floor areas with signs or caution tape.
15. Flammable chemicals are to be stored in proper containers and in flammable storage cabinets.

Costume Shop:

Working in the Costume Shop can expose you to a variety of potential health and safety risks. Burns from irons and steamers, reactions from dyes and chemicals, carpal tunnel syndrome from repetitive motions, and foot, knee, or back pain from standing and cutting for hours at a time are just a few of the risks faced each day.

1. Several types of sewing machines and mechanical devices are used in the costume shop. Do not operate any machinery unless the costume shop manager or other designated supervisor has properly trained you.
2. Keep hands, loose clothing, and jewelry clear of all moving parts of sewing machines, sergers, and other machines.
3. Do not hold pins or needles in your mouth.
4. Place irons on fireproof pads when not in use. Do not leave irons on fabric ironing tables. Turn irons off at the end of the day.
5. The steamer can cause severe burns if not handled properly. Use caution when steaming fabrics. Be sure the steamer is turned off when you are done.
6. All spray painting and the use of any materials with hazardous vapors must be done in front of the exhaust hood in the prop area. Do **not** spray paint in the dye room.
7. Only authorized and trained personnel may use the dye equipment. Check all dyes, chemicals, and other materials for potential hazards. Read the label and the MSDS (Material Safety Data Sheet) on file to determine what type of protective equipment is needed. Use proper protective equipment (gloves, safety glasses, apron, respirators, dye box etc.) as

required. Use dye box for mixing all powdered dyes. When using the dye vat, make sure the exhaust hood is lowered over the vat and that it is turned on.

8. All flammable items, including but not limited to solvents, spray paints, adhesives, and paraffin must be stored in the flammable cabinet in the prop shop.
9. Do not use any chemicals (dyes, sprays, adhesives, etc.) in the kitchen area. Do not store chemicals in the refrigerator with your lunch or other food items. Do not eat or drink in the dye room.
10. If you stick yourself or someone else with a pin or needle, dispose of it in the SHARPS CONTAINER. Do not reuse pins or needles that have come into contact with blood.

Light and Sound Shop:

With the use of stage lighting equipment comes the risk of electrical shock and burns from coming into contact with hot metal and glass. Do not use or handle any lighting equipment without proper training and authorization.

1. Electrical rigging is to be performed only by trained lighting crew members and under staff supervision.
2. When working overhead follow all "Overhead Work Area" rules from **page 7** of this manual.
3. Safety cables are required on all stage lighting equipment and accessories.
4. When running cables, make sure that they do not cause a trip hazard or impede the movement of scenery.
5. Never coil or wrap cable around pipes, raceways, or drop boxes.
6. Coil drop lines and multi-cables on the grid or loading galleries. Do not lay them on top of any of the counterweight system rigging hardware (i.e. loft blocks or steel aircraft cable).
7. Wear gloves when handling hot lighting equipment and changing lamps.
8. Unplug lighting instruments before changing lamps.
9. Do not "hot" patch. Make sure the circuit is off before plugging in an instrument.
10. Completely dry your hands before touching electrical switches, plugs, or receptacles.
11. Do not grab or touch anyone who is being electrically shocked. Immediately turn off the power. If you are unable to turn off the power, use a non-conducting material like wood or plastic to move the source of electricity away from the person being shocked. Call 911.
12. Notify your supervisor of any hazardous electrical condition. Tag and report any damaged equipment.
13. Exposed asbestos wires are not permitted in any of the theatres.
14. Only 12-3SO cable may be used for lighting instruments.
15. Return unused gel, cable, lights, and accessories to proper storage areas when work is finished.

Office Safety:

General Office Guidelines:

1. Keep your work area clean and free of tripping hazards. Eliminate wires and cables wherever possible. Clean up spills and keep floors clear of paper clips, waste paper, rubber bands, tacks, push pins, pencils, and other materials.
2. Keep desk and file drawers closed when not in use. Never open more than one file drawer at a time to avoid the cabinet tipping over.
3. Make sure that all office equipment such as typewriters, computers, printers, etc., are set up so they are not hanging over the edge of the desk or table and protruding into an aisle.
4. Make sure that all filing cabinets and shelves are securely anchored to the floor or wall.
5. Heavy equipment or materials should not be stored above head height.

Ergonomics:

- 1. Sitting is one of the biggest causes of strain on your back. The best way to sit is straight, with your back against the back of a supportive chair, feet on the floor, knees slightly higher than your hips. You will put less strain on your back if you follow a few guidelines:*
 - A. Hold what you are reading upright instead of leaning over to read it on your desktop.*
 - B. Keep your chair close to your desk. Do not hunch over your work.*
 - C. Adjust your chair properly and readjust it often.*
 - D. Adjust your workstation height if necessary.*
 - E. Turn your whole body, instead of twisting it, to reach something that's off to one side.*
 - F. Use your elbow to support your arm when on the phone. Don't cradle the phone in your neck.*
 - G. Get up and walk around periodically.*
- 2. Your computer monitor should sit at eye level to avoid neck and eye strain.*
- 3. Here are some ways to prevent repetitive strain at the keyboard:*
 - A. Straight wrists, hands, and back posture at the keyboard are necessary to prevent discomfort and injury.*
 - B. Sit up straight. Do not slouch at the keyboard.*
 - C. Your desk, chair, keyboard and screen height should be adjusted to meet your needs so that you can maintain a straight wrist, hand and back posture. If you are experiencing aches and pains at the end of the day, you may need to re-adjust your workstation.*
 - D. Be sure to take appropriate breaks. Move around whenever possible. Exercising, stretching at least once every hour, even when seated at your desk will help relieve tension. When at home try to avoid the same wrist and hand motions you do at work.*

Hazard Communication Program:

Each staff member and student working in Wirtz has the "Right To Know" about the potential health hazards of chemicals used by Wirtz. The purpose of the Hazard Communication Program is to ensure that all chemicals brought into Wirtz are evaluated, and that information concerning these health hazards is given to employees before use of the product. The Wirtz Center abides by all guidelines established in EHS's Hazard Communication program.

Wirtz Policy:

1. To ensure that information about the dangers of all hazardous chemicals used in Wirtz is made known to all affected persons.
2. All Wirtz shops will participate in the hazard communication program. This manual as well as a more detailed written program will be available in the Production Manager's office for review by any interested staff member or student.
3. Prior to introducing a new chemical hazard into any department of Wirtz, each employee in that department will be given information and training as outlined above for the new chemical hazard.

Safety Data Sheets (MSDS):

1. Each department head will make sure procedures are developed to obtain the necessary SDSs for all hazardous materials in their area and will review incoming SDSs for new or significant health and safety information. They will see that any new information is passed on to affected staff and students.
2. Each department or shop will have an up-to-date list of the hazardous materials stored in that location along with the appropriate SDSs.

3. SDSs will be available to all staff and students during each work period. If an SDS is not available, the department head will obtain one.

Container Labeling:

1. Each department head will verify that all containers received for use in their department are clearly labeled as to the contents, note the appropriate hazard warning, and list the name and address of the manufacturer.
2. Each department head will ensure that all secondary containers are labeled with either an extra copy of the original manufacturer's label or with labels that have the identity and the appropriate hazard warning.

The Safety Committee:

The Purpose of the Safety Committee:

The Safety Committee was created to respond to Staff and Management's concern for Health and Safety in the workplace. Safety issues, both general and specific, that arise from particular events or observations are discussed at committee meetings. The committee's goal is to prevent accidents by improving the workplace before an incident occurs, rather than after an accident happens. The committee also discusses the long-term maintenance and improvement of Wirtz facilities.

Unsafe conditions or practices observed in each department or shop will be noted. A list of any identified hazards will be given to the appropriate department to correct. Progress on correcting previously reported conditions or practices will also be noted.

Safety Committee Members:

The current members of the Safety Committee are:

Peter Anderson	Light/Sound Supervisor	(847) 491-5385	p-anderson3@northwestern.edu
Pamela Brailey	Cutter/Draper	(847) 491-2585	p-brailey@northwestern.edu
Heather Basarab	Production Manager	(415) 297-4568	heather.basarab@northwestern.edu
Chris Wych	Properties Supervisor	(847) 467- 0346	c-wych@northwestern.edu
Shannon Perry	Interim Technical Sup.	(847) 491-2588	shannon.perry@northwestern.edu

Appendix A: Departmental Emergency Evacuation Plan

Virginia Wadsworth Wirtz Center for Performing Arts: 1949 Campus Drive
Barber Theatre: 30 Arts Circle
Louis Theatre: 20 Arts Circle

In the event of fire, hazardous materials release or other hazardous situations requiring emergency response, ACTIVATE THE FIRE ALARM BY PULLING AN ALARM PULL STATION AND CALL UNIVERSITY POLICE.

EMERGENCY PHONE NUMBERS

University Police (NUPD)	911
NUPD Non-Emergency	847-491-3254
Emergency Information Mailbox, Evanston Campus	847-491-1100
Wirtz Emergency Contacts	Jorge Silva Managing Director (847) 467-2696
	Heather Basarab Production Manager (415) 297-4568
Facilities Management	847-491-5201
Office of Environmental Health and Safety	
Safety	847-491-3253
Claims Division	847-491-5610
Workers Compensation	847-491-5582

IN THE EVENT OF AN EMERGENCY

CALL 911 & CALMLY STATE:

- Your name.
- The building and room location of the emergency.
- The nature of the emergency – fire, chemical spill, etc.
- Whether injuries have occurred.
- Hazards present which may affect responding emergency personnel.
- A phone number near the scene where you can be reached.

EVACUATION PROCEDURE QUICK LIST:

When the need to evacuate a building arises, a general procedure should be followed in order to encompass most of the threats that would require an evacuation.

What should you, as an individual, do? Upon hearing an alarm signal or notice of the need to leave the building, the individual should....

1. Immediately begin towards the nearest exit/stairwell (not elevator). Prior to this, the individual should be aware of all available exits so an alternative exit can be used in the event the closest one is not useable.
 - A designated warden or searcher should check their areas to advise people to leave. The warden should then make their way to the exits once their areas are clear.
2. Continue to the ground floor or other available exit and exit the building. In high rise buildings, individuals should be aware that speed of descent in stairwells may slow down due to the large number of people in the stairwells.
3. Keep yourself and others calm.

4. Close windows and doors as you leave.
5. Once the individual has exited the structure, move away from the building to the rally point. A rally point is a predetermined location away from the building that people in a department can meet to ensure all individuals have exited the building.

Wirtz's rally point is in the sculpture garden across Campus Drive.

6. Once at the rally point, stand by and wait for further instructions. Further instructions should only come from authority figures such as Police or Fire Department. These instructions can come as an all clear to re-enter the building or a direction to move further away to another location.

Do not re-enter the building until told it is safe to do so.

INDIVIDUALS UNABLE TO EXIT:

An individual who is unable to exit a building during an evacuation has options. Note that it is important to meet with persons who have mobility issues prior to any evacuation and have a plan in place so that individual will be aware of what will happen in the event of an evacuation.

1. Any searcher or warden who comes upon a person who cannot exit a floor or negotiate a stairwell should shelter that person in place.
 - Shelter in place simply means moving the person having difficulty to a location away from the threat. In an office behind a closed door or in an "area of rescue assistance" are options.
2. Once that person is "sheltered", the searcher/warden should continue exiting the building. Once outside, the searcher/warden should contact emergency response personnel and notify them of where the individual is and the nature of the problem.

PERFORMANCE EVACUATION PROCEDURE:

Usher Emergency Training:

- All Ushers should be informed of the Emergency plan below and assigned jobs in the case of evacuation.
- Ushers should be assigned flashlights to be used to lead audience members out of the theatre.
- The House manager should point out all emergency exits and fire extinguishers to ushers.

In the event of Fire or other need to evacuate theatre:

1. Activate Alarm.
2. Notify House and Stage Managers.
3. Call University Police at 911.
4. Evacuate Backstage and Audience (see detailed instructions below).
5. Only for Louis Theatre: If fire is on stage, the graduate assistant should bring in the fire curtain.
6. House Manager should meet Emergency personnel and inform them of details of the emergency situation.

Audience Evacuation Procedures:

1. Turn on house lights to full if possible.
2. Stage Manager makes the following announcement - a copy of the announcement is taped in the booth of each theatre.
 - *Ladies and Gentleman. May I have your attention please? May I have your attention please? There is a problem in another part of the building. At this time, we ask you to exit the building as quickly, calmly and quietly as possible. The ushers will assist you to the nearest exit.*
3. Graduate Student makes sure that all backstage personnel are informed of the need to clear the theatre.
4. House manager makes sure that the audience is leaving the theatre and prevents anyone from returning into theatre until "all clear" is given by emergency personnel.

BUILDING SAFETY SYSTEMS:

Locate the emergency equipment in your area and know how to use it. The building at 1949 Campus Drive on Northwestern University, Evanston campus has the following safety systems:

Alarms: The fire alarm system in the building is activated by manual pull stations, smoke, or heat detectors, or the activation of the sprinkler system. When an alarm is activated, a signal is sent to Police and Fire Departments who respond immediately. Evacuation is required anytime the fire alarm system sounds.

Smoke and Heat Detectors: This will immediately activate the fire alarm system.

Automatic Sprinkler System: This will begin the extinguishing of the fire and immediately send an alarm to UP. Individual sprinkler heads will open only where the temperature reaches the prescribed setting. It is important that at least 18" of clearance be kept at all times below the line of sprinklers to allow proper water distribution over the fire. Sprinklers must never be painted and should be protected from being struck and damaged or broken off. Leaks or other problems with the automatic sprinkler system should be reported promptly to Facilities Management.

Emergency Lighting: This will aid in the evacuation in areas of corridors and stairways. A flashlight is recommended to aid in emergencies.

Fire Extinguishers: Only NU trained personnel should use fire extinguishers. Always notify NUPD, from a safe location, after using a fire extinguisher. Never block or obstruct extinguishers with furniture or equipment.

Fire Hoses: Only NU trained personnel should use fire hoses.

Manual Alarm Pull Stations: Pull down to activate evacuation alarm. This will sound an alarm and immediately send an alarm signal to NUPD. After activating the alarm, call NUPD from a safe location to provide additional information. Never block or obstruct these with furniture or equipment.

For Locations of Fire Extinguishers, Fire Hoses, and Manual Alarm Pull Stations,
SEE ATTACHED MAP

First Aid Kits: For minor injuries not requiring medical attention, First Aid Kits are located in the Costume Shop, Light Shop, Scene Shop, Box Office and Make-Up Rooms of Louis and Barber Theatre, and Office 221 as well as the Louis grid have basic supplies.

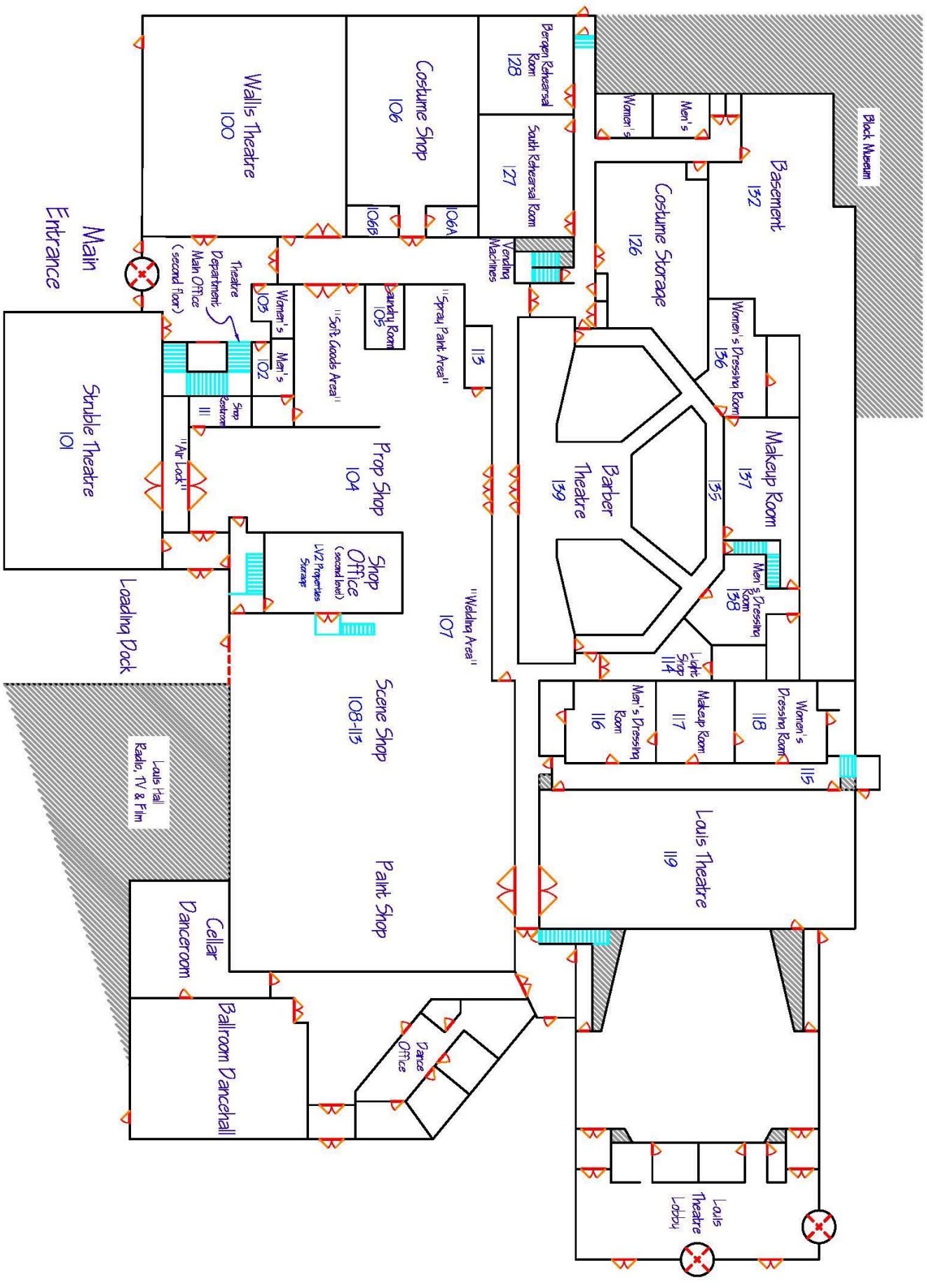
Automated External Defibrillator (AED): AED is a portable electronic device that automatically diagnoses the potentially life-threatening cardiac arrhythmias of ventricular fibrillation and ventricular tachycardia in a patient, and is able to treat them through defibrillation, the application of electrical therapy which stops the arrhythmia, allowing the heart to reestablish an effective rhythm. AED units are located in the lobby of the Barber Theatre, the Louis Theatre, and inside Wirtz's main entrance at 1949 Campus Drive.

Fire Doors: The fire doors in this building must be kept shut at all times.

EVACUATION PERSONNEL

ANDERSON	PETER	Lighting/Sound Supervisor	1-5385
BASARAB	HEATHER	Production Manager	7-6932
BRAILEY	PAM	Costume Shop	1-2585
CONSTANTINO	MICHAEL	Associate Managing Director	
JOST	DYLAN	Scene Shop	7-4596
MAYHEW	JAMIE	Box Office	1-2577
MCGILLICUDDY	DENISE	AMTP	7-0333
PARSONS	KATHY	Props Shop	7-1721

PERRY	SHANNON	Interim Technical Supervisor	
SANDOVAL	SERENA	Costume Shop Supervisor	
SILVA	JORGE	Managing Director	
TRUDEAU	MICHAEL	Lighting/Sound Assistant	1-5385
TU	VALERIE	Associate Production Manager	7-3180
WEBER	JIM	Paint Shop Supervisor	1-3959
WERTH	RENEE	Costume Shop	1-7638
WHITE	KRISTY MARIE	Costume Shop	1-7638
WYCH	CHRIS	Prop Shop Supervisor	7-0346



Appendix B: Shop Training Program

This document represents a summary of all training programs that each individual working in the scene shop or operating scenic elements/equipment must complete. This document is relevant only to scene shop employees/those controlling scenic elements, and may not include training programs relevant to other shops.

Some training programs need to be completed before an individual can begin working with the scene shop; other programs can be completed over time at the discretion of the shop supervisor. The following table shows which programs need to be completed by each type of employee:

	Technical Supervisor	Shop Staff	Grad Students	Work Studies/ Volunteers	Others?
Shop Rules	x	x	x	x	
Tools/Equipment	x	x	x	x	
Fall Protection – Authorized Trainer	x	x			
Fall Protection – Authorized User	x	N/A	x		
Fall Hazards	x	x	x	x	SMs, show crews
MEWPs – Authorized Trainer	x				
MEWPs – Authorized User	x	x	x		
MEWPs - Occupant	x	x	x	x (every time)	
Powered Industrial Trucks – Authorized Trainer	x				
Pallet Stacker – Authorized User	x	x			
Hazard Communication	x	x	x	x	
Welding, Cutting, and Brazing (Hot Work)	x	x	x	x	
Rigging	x	x			
Fly System Operation	x	x	x		SMs, show crews
Respiratory Protection	x	x	x		
Onstage/Backstage Safety	x	x	x	x	SMs, show crews

Note that the Technical Supervisor must be trained in all areas: this training schedule is determined by the Technical Supervisor during onboarding. Training programs in the table above are prioritized according to the following criteria:

- High priority – needs to be completed before first day
- Medium priority – needs to be completed on first day
- Low priority – needs to be completed during first month
- As needed - completed if the opportunity arises

All training programs can be accessed via the Wirtz Training website [here](#).

myHRLearn modules will be assigned to each individual by the Office of Environmental Health and Safety, and can be accessed [here](#).

Appendix C: Shop Inspection Program

This document is an outline of all inspections and maintenance required in the Wirtz Center scene shop. Detailed inspection forms for each item are available in the scene shop online folder. Each year, an inspection form for the year will be generated: this is a checklist that must be kept updated as inspections occur. The Year's Inspection Checklist will be archived at the end of each year.

To reduce the likelihood of overlooking issues, inspections should be conducted by a rotating group of staff members: avoid having the same staff member conduct a given inspection each time.

Some items require the inspection results be kept and archived for EHS's purposes; others only require noting on the Year's Inspection Checklist that their inspection has been completed. Note that all equipment should be visually examined before each use, but that these examinations do not need to be officially recorded unless otherwise noted below.

Record Required for EHS:

Pre-Use:

Fall Protection

- Personal Protective Equipment (signature on [Pre-Use Inspection Checklist](#))

MEWPS

- All MEWPs (virtual signature on [Pre-Operation Checklist](#))
- Jobsite Risk Assessment
- Rescue Plan

Pallet Stacker

- [Pre-Use Inspection Checklist](#)

Quarterly:

Rigging

- Fire Curtain Emergency Deployment Test

Yearly:

Rigging

- [Louis CFS](#)
- [Louis Fire Curtain](#)
- [Louis Tab Rigging](#)
- [Barber](#)
- [Wallis](#)
- [Struble](#)
- [201](#)
- [Downtown Spaces](#)
- [Paint Drop Rigging](#)

Rigging Equipment

- [Chainhoists](#) (hand-operated and electric)
- [Other hardware/equipment](#)

Fall Protection

- [Personal Protective Equipment](#)

MEWPs

- [Yearly](#)

[Pallet Stacker](#)

HazCom

- Update [Chemical Inventory](#)
- [Annual Chemical Inventory Certification](#) (to EHS)

Pre-Install:

Rigging

- [Louis CFS](#)
- [Barber](#)
- [Truss](#)

Post-Install:

Rigging

- [Louis CFS](#)
- [Barber](#)

After Strike:

Rigging

- [Louis CFS](#)
- [Barber](#)

Flyhouse (yearly):

Rigging

- Louis
- Barber
- Wallis
- Struble
- 201/201 performer flying
- Downtown Spaces

Fall Protection

- Horizontal lifeline system

For Shop Purposes:

Daily:

Tools

- Pneumatics (add 2 drops lubricant)

Monthly:

Tools

- Cold saw (check fluid levels)
- Table saw (clean out cabinet)
- Dust collector (empty; may need more frequently)
- Compressed gas canisters (check fill levels)

Storage

- Sort scrap/check that no storage is overflowing

Every 6 Months:

MEWPs

- Lug nut torque check

Yearly:

Rigged Shop Storage

- [Rigged Shop Storage Inspection](#)

Scaffolding (check for signs of damage or corrosion; see myHRLearn scaffold safety training for more info)

Shelving/Storage

- [Shelving Inspection Guidelines](#)
- Update [Soft Goods Inventory](#)
 - Check that no goods have expired flame-proofing

Tools/Equipment

- [Tool Inspection checklist](#)
- [PPE Inspection checklist](#)

Spaces

- [Louis](#)
- [Barber](#)
- [Wallis](#)
- [Struble](#)
- [201](#)
- [Downtown Spaces](#)
- [Scene Shop](#)

Appendix D: Shop Rules

Primary Contact Info: Shannon Perry, Interim Technical Supervisor: (847) 491-2588
Secondary Contact Info: Heather Basarab, Production Manager: (415) 297-4568

Emergency Services: Dial 911
Campus Police: Dial 456 or 847-491-3456 (non-campus phone)

General Safety

1. Students allowed in the shop: M-F, 9:30-1 and 2-5
2. No tool usage allowed outside of these hours unless given approval by a shop supervisor
3. Do not use any power tools without another person present to help in case of an emergency
4. Dress code for a construction zone:
 - Closed-toed shoes (sneakers or boots preferable)
 - Long pants recommended, and required for certain tasks as assigned by a supervisor
 - Long hair and beards must be tied up
 - No rings, watches, or dangling jewelry
 - No ear buds unless working in a quiet environment and given permission by a supervisor
 - No loose-fitting clothing
 - Be prepared for anything you wear to become dirty or stained
5. No food allowed on the shop floor
6. Egress zones (marked with yellow paint on the shop floor) must remain clear at all times
7. The shop is a hazardous environment: always stay focused and alert to your surroundings

Personal Protective Equipment

1. Eye/Face Protection:
 - Safety glasses required at all times in the shop
 - Goggles should be worn over eyeglasses if an employee needs to wear eyeglasses
 - Face shields should be used when exposed to flying material (i.e. when grinding)
2. Hearing Protection:
 - Disposable earplugs or earmuffs required when operating tools and equipment, when in the vicinity of loud tool noises, or when exposed to loud and prolonged sound from theatre audio systems
3. Hand and Skin Protection:
 - Latex gloves should be worn whenever using potentially irritating substances
 - Chemical resistant gloves should be worn when checking the battery fluid levels of the MEWPs
 - Work gloves should be worn whenever moving trash to the dumpster or dealing with sharp edges of metal scenery
4. Respirators:
 - N95 nonreusable masks are required when engaged in any activity that creates particles
 - Respirators outfitted with P100 cartridges are required when welding
 - A shop supervisor will let you know if your project needs a different type of respirator
 - Respirators are not required while using spray paint in the spray booth; a supervisor will let you know if the product you are using requires a respirator even in the spray booth
5. Hot Work Protection:
 - Long pants, jackets/sleeve protectors, welding masks, and welding gloves required when welding
 - Welding gloves required when handling hot material
6. Knee pads are recommended for use whenever you are spending prolonged periods of time working on the floor.
7. Hard hats are required in the following scenarios:
 - When overhead work is going on in the grid or catwalks of any theater
 - When work is going on at height above you (i.e. when someone is in a MEWP and you are working nearby)
 - When standing a large scenic item upright
 - Any time there is falling object risk
8. Harnesses and appropriate fall protection are required when working overhead, as outlined in the shop's Fall Protection training program.

Tool Safety

1. You are not required to operate any tool or perform any task that makes you feel nervous or unsafe.
2. Do not use any tool or piece of equipment unless you have received training for it. Note that the following equipment types are always off-limits to any student unless given permission from a shop supervisor:

- Welding
 - Automated scenery
 - Fly system operation or weight changing
3. Before use, perform a visual inspection on any tool or piece of equipment you are required to use. If it is damaged, report it to your supervisor.
 4. Do not talk to others while you or they are operating tools
 5. For supervisors: if someone has identified a tool as damaged, begin Lock Out Tag Out procedures and place the tool in the back of the tool room (the Graveyard).

Working Onstage Rules:

1. Follow all instructions given to you by your supervisor about donning hardhats and working underneath overhead workers.
2. When in an area where overhead work is occurring, be listening for calls from overhead alerting you to falling objects; be prepared to leave the area immediately if you hear a call
3. When weight loading is occurring in the Louis, be listening for calls alerting you to imminent danger; be prepared to leave the area immediately if you hear a call

Student Safety Resources:

1. The “Right-to-Know” SDSs can be accessed via the QR codes posted throughout the shop.
2. If you have an immediate safety concern, notify your supervisor.
3. If you would like to report a safety concern and wish to remain anonymous to the shop staff, you may contact Heather Basarab, Wirtz’s Production Manager, at heather.basarab@northwestern.edu
4. If you would like to report a safety concern and wish to remain anonymous to all Wirtz staff, you may contact Northwestern University’s Office of Environmental Health and Safety.

Appendix E: Stage Safety Orientation

This document is intended to introduce the safety concerns associated with navigating and performing on a stage and on scenic elements. All rules established in the Wirtz Health and Safety Manual apply to work onstage or backstage. This document will offer rules about general stage safety, and will be supplemented with separate risk assessments created for the specific hazards of each production. This document will be distributed by a Shop Supervisor or Stage Manager during an in-person safety orientation session, and is meant to be read and understood by each affected party.

General Stage Safety:

1. A Shop Supervisor/Stage Manager will inform all parties about the location of fire exits, fire extinguishers, and first aid kits. Note that only those who have received Bloodborne Pathogen training can administer first aid, assist, or transport a bloodied person.
2. A Shop Supervisor or a qualified staff member (as approved by the Production Manager) will be present at all tech rehearsals.
3. Only persons associated with a production are authorized to enter the backstage and dressing room area past the half-hour call of a performance or rehearsal.
4. Shoes must be worn in backstage areas at all times, unless specifically instructed to remove them for a performance. Slippers must be worn from the dressing room to the stage if the actor is to appear without shoes.
5. To prevent collisions and falls, no cast or crew member should lie down or sit on the floor backstage during rehearsals or performances unless in designated areas that are out of pathways and are lit.
6. Do not jump from ladders, platforms, or other elevated places unless called for as part of your role or crew assignment and then only under supervised conditions with proper training and rehearsal.

Low Light Levels:

Low light levels may be present when lighting equipment is being focused, during rehearsals, and during performances. Caution should be used in these conditions, as vision is greatly impaired. Blackouts may also occur at any time.

1. Use caution in low light areas and situations. Stop all hazardous activity in low light situations. Use a flashlight when you can.
2. Except during performances, stage managers must call out when stage lights are about to go to "black" to warn those in the area.
3. If you are working in the theatre and a blackout occurs, stop where you are. Do not attempt to find or feel your way in the dark. Wait for the lights to come back on or use a flashlight.
4. Provide blue running lights for all major pathways and obstacles wherever possible.

Moving Scenery:

1. Only designated and trained crew members may operate the fly system or automated scenery.
2. Before each rehearsal and performance where flown scenery is going to be used, visually inspect the system and your workstation according to guidelines received from the Technical Supervisor.
3. In a performance situation, only execute movement on cue from stage management. Moving scenery before a cue could cause severe injuries or damage property on stage.
4. Always have a view of the moving scenery before movement is executed.
5. Except during performances, call out when moving anything.
6. Never attempt to modify the automated system.
7. If something seems out of place or you are unsure about an aspect of the system, find a supervisor for help.
8. For those onstage: be aware of scenery flying in and out, and listen for calls about moving scenery.