Performance Event Safety

UMass Boston
Based on
MIT CAC, MIT EHS, MIT Theater Arts
Why are we here?

• Safety is important and the law.

• Balance the traditions of excellence and ambition while ensuring a safe environment for students and patrons.
Cardinal Rules

- RESPECT those who you are working with
- Do not work ALONE
- KNOW what you are working with
- ASK for help is you don’t know
- INSPECT equipment before use and DO NOT use if broken
- WEAR proper personal protective equipment and do NOT disengage protective features
- CLEANUP in order to prevent damage and injury
The Basics

• Personal Protective Equipment
• Ergonomics and Industrial Hygiene
• Materials
Personal Protective Equipment

- Gloves (Nitrile or heavy duty work)
- Foot protection (closed toe)
- Eye protection
- Clothing (avoid baggy and pull strings)
- Hearing protection
- Head protection
- Fall protection (additional training required)
- Respirators/dust masks (EHS fit test required)
The wrong way!

The right way!
Ergonomics and Industrial Hygiene

• Start good habits NOW!
• ASK for HELP...
  “it’s not a matter of whether you can lift something, it’s whether you should.”

• Lifting:
  – Position close to the object
  – Good grip
  – Lift with LEGS, not back
MATERIAL SAFETY DATA SHEETS
Materials

- Chemicals should always have:
  - Name
  - Manufacturer
  - Hazards
  - Protection and exposure treatment

- Flammable chemicals must be stored appropriately
Materials

• Check with CAC before ordering new chemicals
• Maintain MSDS sheets for all chemicals
Working at Heights

• Fall Safety
• Ladders
• Scaffolding
• Catwalks
• Genie Lift
• Rigging
• Chain Hoists
Fall Safety

- Absolute attention is critical
- Empty your pockets
- Tether necessary equipment
- Do NOT work when people are below
- Never overreach, find another way
Ladders

- Type I and II only. Type III are for home use.
- Do NOT “walk” the ladder
- Ensure secure footing
- Be careful near electrical wiring (and pipes)
- One person at a time (except Little Giant or Trestle)
- Do not step on top two rungs on ladder
- Do not reach horizontally (keep belly button between uprights of ladder)
Scaffolding

- Wheel brakes must be on while working
- Use appropriate communication and methods for moving
- No more than two people on the scaffold at a time
- Work from planks, do not climb the frame or use additional items on top of scaffold
Genie Lift

• Be alert of clearances when ascending and descending
• All four outriggers MUST be in place when lift is occupied
• Do not move lift while occupied
• Two people are needed to move the lift on ramps
• No more than one person in the lift at a time
• Do NOT use the lift to put heavy loads in place
• Do NOT stand on railings of basket to reach higher
Lighting & Electricity

- Lighting Basics
- Lighting Instruments
- Electricity Basics
- Math & Electricity
Lighting Basics

- Lighting for egress must always be maintained, have an operator at the controls.
- “Ghost light” should be placed when shutting down the venue (or low light level).
Lighting Instruments

• When re-lamping, do NOT touch the glass envelope

• Hanging a lighting instrument:
  – Finger tighten instrument
  – Attach safety cable to anchor
  – Wrench tighten
  – Pull shutters and rough focus
  – Ensure no electrical cables are touching instrument body
Electricity Basics

• Check equipment before use
• Check your math, do not depend on circuit breakers (Lock out/Tag out)
• Ensure proper grounding, no zip cord
• Secure all cable runs, do NOT run through doorways
• Do NOT service unless you are 100% sure of what you are doing
Math & Electricity

• Always remember West Virginia

Watts = Volts * Amps

\[ W = VA \]

Example:

2400W = 120V \times 20A

575watt lamp → 4 instruments per 20 amp circuit
Advanced Electrical Connections

• Do NOT work upstream of circuit connectors, or standard wall outlets

• Repairing connectors
  – Green = Ground
  – White = Neutral
  – Black = Hot
Fire Safety

• Emergency Egress
• Additional Fire Safety Guidelines
Emergency Egress

- Egress doors must be clear at all times
- Do NOT prop or tie open fire doors
- Do NOT obscure exit signage, in some cases additional signage may need to be added
Additional Fire Safety

• Maintain 3’x3’ square around all fire extinguishers
• Maintain 18” of clearance around sprinkler heads
• Stand pipes must remain clear and accessible
• Do NOT block alarm pull stations
• Do NOT block or cover smoke detectors
• Do NOT block electrical cabinets, 3’ clearance
Extinguisher Use

• Not encouraged unless trained

• Even then, don’t try to put out anything larger than an incipient fire

• “right tool for the right job”
Guidelines for Designers & Technical Directors

- Materials
- Scenic Guidelines
- Special Effects
- Makeup
- Costumes
- Audio
Scenic Guidelines

• Complete a safety walk prior to every show
• All scenic pieces must be treated with flame retardant or UL marked
• Mark edges with glow tape
• Guardrails on drops of 4’ or greater
• Trap door concerns
• Plan your strike, don’t pull the wrong screw
Information for Front of House Staff

- Emergency Procedures
- Crowds
- Seating
In case of emergency, push here.
Emergency Procedures

• First Aid
  – Basic first aid kit for performers/staff only. Patrons should seek public means of treatment
  – AED and CPR training available

• Ushers
  – Keep egress clear
  – ADA knowledge
  – Limited responsibilities/rights, go to Umass Police for help
Crowds

• Pre-show
  – Tickets and registration encouraged
  – Doors open 30 minutes before performance

• In venue
  – One patron per seat
  – No one in aisles

• Post-event
  – No giveaways at door
  – Keep people moving

• Do not wear “SECURITY” t-shirts, “STAFF” or “VOLUNTEER”
Fire exit
Egress

• No path may be blocked by cable, scenic element, performer, musician, technical personnel, or any other object

• Minimum overhead clearance must be maintained as well so that patrons do not need to duck while exiting