

11.2.20 THEATER AND STAGE SAFETY

PURPOSE:

It is the policy of Baylor University to maintain a reasonably safe environment for its students, academic appointees, staff, and visitors. This policy sets forth operating procedures and practices to help maintain theater and stage environments in a safe and compliant manner at all times.

SCOPE:

Baylor University will provide all faculty, staff, student-employees, students, and volunteers training in safety and use of hand and power tools, equipment, and accessories for lighting, rigging, audio, painting and construction activities, or any other activities that might take place in the work environment. Departments will provide personal protective equipment (PPE); the Department of Risk Management may provide consultation towards selection of proper PPE, as needed or requested.

RESPONSIBILITY:

Safety hazards can usually be prevented by staying alert and asking questions when the answer isn't obvious. "Horse play" will not be tolerated under any circumstances.

A. Use of Production Facilities

1. Rigging, construction, painting, and strikes are not permitted in any shop area after midnight and before 6:00 am.
2. Students may work in stage and shop areas performing construction, rigging, and painting activities between the hours of 6:00 am and midnight as long as the technical director or another qualified supervisor is present.
3. A technical supervisor must be present when lights are being rigged and struck.
4. The technical director or a qualified member of the staff must be present when scenery is being built, rigged, moved, struck, or weights are being changed on any of the counterweight systems.
5. The technical director or a qualified technical supervisor must be present for all technical rehearsals.
6. All staff and students operating power or hand tools must have completed a safety orientation administered by a designated shop supervisor. Records verifying completion of this training must be maintained by the technical director.
7. All staff and students participating in crew must be given a theatre safety orientation prior to the start of technical rehearsals. The technical director coordinates all safety training and maintains all associated records.

11.2.20 THEATER AND STAGE SAFETY

8. Any injury requiring first aid or other medical treatment must be reported to the technical director immediately. See Baylor University's **Accident Reporting and Investigation Policy** for procedures on how to handle and report accidents.
9. For any first aid administered in the theatre, first aid kits are provided. All company members are reminded that at no time should individuals come in contact with another person's blood or other bodily fluids. Each first aid kit is equipped with rubber examination gloves. Blood or bodily fluid contaminated waste must be disposed of in an appropriate manner. Always use extreme caution when dealing with possible blood borne pathogen exposure. See Baylor University's **Accident Reporting and Investigation Policy** for procedures on how to handle and report accidents. See Baylor University's **Blood Borne Pathogen Policy** on procedures for handling blood or other potentially infectious materials.
10. Smoking is prohibited in all buildings on Baylor University campus.
11. Food and drink are prohibited in all theatre and control booths.
12. Participants are urged to think safety at all times. Failure to follow the safety rules could result in serious injury or death. Do not take chances. If in doubt, ask a supervisor. If a procedure or situation in the shop or theatre seems dangerous, ask a supervisor before beginning any activities. Report all unsafe conditions to a supervisor and to the Department of Risk Management at 710-4586.

B. Air Quality, Hazards and Safe Working Practices

Air quality in the shop and stage areas can vary depending on several conditions. These conditions include, but are not limited to: dust from power tools, mists from water based latex and acrylic paints, chemical and CO₂ based fogs from fog machines.

1. When wood dust is present in the air from operating machinery, always use a particle mask. The technical director is responsible for supplying masks.
2. Latex and acrylic paints are water based paint and are non toxic. When these paints are sprayed, a fine mist can occur. Wear a particle mask when spraying or when in an area where spraying is taking place.
3. Chemical based theatrical fogs are not harmful in normal concentrations. Do not exceed limits of concentration on the Material Safety Data Sheet (MSDS). See "**D. Chemicals, Hazards and Safe Working Practices**" of this policy for more information on MSDS.
4. CO₂ fog can be dangerous if breathed. It doesn't contain enough oxygen to support breathing. CO₂ fog lies on the ground and seeks low areas. Do not lie down in the fog. Avoid breathing the fog. Any work that must be done in an oxygen deficient area must be approved through the technical director and the Department of Risk Management.

C. Audio/Visual Equipment, Hazards, and Safe Working Practices

The use of audio/visual equipment in the theatre is accompanied by the risk of electric shock, burns, and physical injury from contact with the hot metal, glass, electrical connectors and

11.2.20 THEATER AND STAGE SAFETY

cables, both hanging and on the floor. Do not use or handle any audio/visual equipment without proper training and authorization.

1. The rigging of audio/visual equipment is to be done only under staff supervision.
2. All electrical, floor, hand tool, ladder, lift, lighting, low light level, noise level, obstruction, orchestra pit, overhead work area, and rigging rules apply while working with audio/visual equipment.
3. All electrical repair work is only to be performed by trained and qualified staff employees.
4. All audio/visual cables in working and walking areas are to be properly dressed and taped down.
5. Return unused equipment, cable, and accessories to proper storage areas when work is complete.
6. Clean up electrical equipment and accessories from stage and sound rooms.
7. Store equipment in appropriate cabinets and rooms designated for audio/visual equipment.
8. Report any damaged equipment to supervisor; tag and remove all damaged equipment from circulation.
9. Report any hazards to supervisor immediately.
10. Safety cables are required on all hanging audio/visual equipment.

D. Chemicals, Hazards and Safe Working Practices

Many solvents, adhesives, enamel, spray paints, and Styrofoam are used in the scene shop and stage areas. Many of these chemicals produce toxic fumes and gasses and are extremely flammable. Consult the material safety data sheet (MSDS) for proper handling and hazards of each specific chemical.

1. Know what is being worked with. Read the MSDS on each chemical before using it.
2. Wear the proper protective clothing and equipment for the job.
3. Prevent ingestion of chemicals. Wash hands frequently. Do not eat, drink, smoke, or apply lip balm around chemicals.
4. Keep workplace clean and free of debris.
5. Solvents such as paint thinner, lacquer thinner, alcohol, and acetone must be used in well ventilated areas.

11.2.20 THEATER AND STAGE SAFETY

6. Spray paints must be used in well ventilated areas. See shop supervisor for disposal of empty spray cans.
7. A particle mask rated for spraying latex and/or acrylic paint is required when spraying latex and acrylic paints.
8. Protective gloves must be worn when handling chemicals, including dry ice. If gloves or any other personal protective equipment, including respirators, does not fit properly, or becomes damaged, contact supervisor, immediately discard the damaged equipment and replace with new, clean equipment. Damaged PPE should never be reused for any reason.
9. Eye protection must be worn when handling chemicals, including dry ice.
10. Smoking or an open flame is not permitted when working with chemicals.
11. In case of a chemical spill, notify the shop supervisor and the Department of Risk Management at 710-4586.
12. Waste chemicals must be disposed of properly. See the shop supervisor or the Department of Risk Management for questions on proper disposal.
13. MSDS are to be maintained on file in the technical director's office or another public access area for all chemicals in use.
14. Flammable chemicals are to be stored in safety cans and in properly labeled flammable storage cabinets.

E. Electricity, Hazards and Safe Working Practices

Electricity is present everywhere in the shop and stage areas. The risk of electric shock is present at all times due to the constant changes in work areas, lighting positions, and heavy use of electrical equipment and accessories.

1. All electrical repair work is to be performed only by trained and qualified staff employees.
2. Electrical rigging is to be performed only by trained lighting crew members and under staff supervision.
3. Only properly grounded tools, cords, and equipment may be used.
4. Never run extension cords across doorways, walkways, room divisions, through windows, or holes in walls or floors.
5. Check all equipment and cords for damage before use.
6. Remove damaged equipment from use and notify supervisor.
7. Be alert for extension cords on the floor and in work areas.

11.2.20 THEATER AND STAGE SAFETY

8. Do not overload extension cords; use one tool per cord.
9. Be aware of overhead and floor mounted lighting fixtures and power cables in stage areas.
10. All shop, stage, ladder, lift, and rigging rules apply to electrical safety.
11. Heat resistant, insulated gloves should be worn when focusing lighting equipment or changing lamps.
12. Safety lines should be attached to wrenches and tools when working overhead.
13. Hard hats must be worn when persons are working overhead and when battens are being rigged at deck level.
14. Exposed asbestos wires are not allowed in any theatre on campus.
15. Rings, jewelry, watches, etc. should not be worn when working with lighting equipment. Cell phones or portable music players should also never be used during this process.
16. Do not overload theater circuits; see technical director for questions on proper amperage levels.
17. Ask the supervisor first to ensure the proper wire and cable sizes and types are always used in lighting installations.
18. Use the shortest extension cable possible.
19. Never coil or wrap cable around pipes, raceways, or drop boxes.
20. Do not use fiberglass sheathed “two-fers” in floor positions.
21. Coil drop box multi-cables on the grid deck. Do not lay them on top of any of the counterweight system rigging hardware (i.e. loft blocks or steel aircraft cable).
22. All lighting equipment must have a safety cable. Attach first, disconnect last.
23. Top hats and barn doors must be attached to the lighting equipment’s safety cable.
24. Completely dry your hands before touching electrical switches, plugs, or receptacles.
25. Notify your supervisor of any hazardous electrical condition immediately.

F. Floors, Hazards and Safe Working Practices

Floors in the shop and stage areas are often covered with many hazards and obstructions due to flexible work areas in the building. Some of the floor hazards associated with the floor include, but are not limited to: open traps in stage floor, wet floors due to painting and spills, obstructions including tools, power cords, air hoses, materials, and scenery.

11.2.20 THEATER AND STAGE SAFETY

1. Stay alert to changes in work conditions.
2. Clean up spills as they occur.
3. Do not leave open traps unattended. Install railings and mark with “Caution” or “Danger” signs and/or tape.
4. Clean up tools, materials, and obstructions when finished with a project or when leaving it for an extended period of time.
5. Mark and block off entrances to wet painted floor areas.
6. Put away cords and hoses when the job is completed.
7. Do not block aisles, hallways, fire exits, doorways, fire doors, fire equipment, first aid kits, or electrical panels.
8. Notify shop supervisor of any unsafe condition immediately.

G. Hand Tools, Hazards and Safe Working Practices

Hand tools are often overlooked as safety hazards. Be careful. Many tools have sharp edges, blades, springs, etc. that can cause severe injuries.

1. Use the proper tool for the job.
2. Maintain tools in good condition. Report damaged tools to the supervisor and remove them from service until they are repaired or replaced.
3. Store and carry tools properly. Put them away when work is complete.
4. Be sure hands are as free of dirt and grease as possible.
5. When using or carrying a sharp edged tool, point the sharp edge away from the worker. Do not carry sharp edged tools in pockets.
6. Wear proper safety equipment at all times.
7. All tools must be secured to the worker with a lanyard when entering fly rail areas.
8. All the contents of pockets must be removed when entering fly rail areas.

H. Ladders, Hazards and Safe Working Practices

The use of ladders in the shop and stage areas is a common occurrence. Falls from ladders can cause severe injury to one’s self just as falling objects from a ladder can cause injury to one’s self as well as others. Safe ladder practices are essential at all times.

1. Check ladders for broken or damaged parts before each use. Never use a damaged ladder. Report any damaged ladder to supervisor, label it, and remove it from service.

11.2.20 THEATER AND STAGE SAFETY

2. Only one person on a ladder at a time.
3. Do not place a ladder in front of a door that opens onto the ladder unless the door is blocked open, locked from access, and/or guarded.
4. Do not place ladders on boxes or any other object to obtain extra height.
5. Always face the ladder when ascending or descending.
6. Do not stand or work on the top two steps of a ladder.
7. Never leave anything unattended on top of a ladder or on the steps of a ladder.
8. Do not lean or overreach from a ladder.
9. Do not straddle the space between a ladder and another object.
10. Make sure the ladder is fully open and the spreaders are locked.
11. Never reposition a ladder while on it.
12. Store ladders in their proper location after use.
13. Do not use a ladder on an uneven surface.
14. Do not use a ladder without someone else present in the area..

I. Working on the Fly-Rail

1. Before entering the fly-rail area, all contents from pockets must be removed. This will eliminate the possibility of dropping things on persons below.
2. All tools must be secured to the individual by a tie line or lanyard.
3. The stage entrance nearest to the fly-rail must be closed off before any weight is loaded or unloaded.
4. When workers are on the fly-line, trap door gates must be closed.
5. Loading and un-loading weight on loading rails must be done in the company of a technical director. The stage under the rail must be secured before any work can be done.
6. Report any frays in the rope or difficulty in operating the pulley system to the technical director immediately.

J. Attic and Grid

Under no circumstances are students permitted to enter attic areas. Under rare circumstances there might be a need to change a light bulb or adjust a fixture. However, this work will be facilitated by the technical director or Baylor Facility Services, and not a student. A head

11.2.20 THEATER AND STAGE SAFETY

lamp and means of communication are required in attic areas. Students are not permitted to be up on the grid for any reason. Failure to comply with these rules will result in a disciplinary referral to the Human Resource Department.

K. Lifts, Hazards and Safe Working Practices

Any personnel lift equipment can be dangerous without proper training on its use. Extreme caution should be used before operating this system as damage to property as well as self and others can occur.

1. All users must first be trained by the technical director or other appropriate supervisor. This supervisor is also responsible for maintaining record of this training.
2. The unit must be used on a flat and level surface.
3. All stabilizers (outriggers) must be properly extended and locked before entering the basket.
4. Do not exceed the maximum load rating. This includes the operator and all equipment in the basket.
5. Do not operate the lift on an elevated platform, scaffold, truck bed, or extended platform.
6. Only one person is allowed in the basket.
7. Do not climb, stand, or sit on the basket railings.
8. Do not lean ladders against the lift. Never apply a side load force to the unit by pushing or pulling from the basket or by hanging heavy wires or cables over the side.
9. Do not move the lift when the basket is raised.
10. Do not operate near overhead electrical lines or obstructions.
11. Do not stand under or near the loaded basket.
12. Never attempt to use the lift without someone else present in the area.
13. After use, coil the power cable and put it in the basket. Return the lift to its storage area.
14. The use of fall protection is mandatory whenever working over 4 ft up on a lift truck or in the bucket of a lift truck.

L. Lighting Equipment, Hazards and Safe Working Practices

The use of stage lighting equipment in the theatre poses 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. The rigging of lighting equipment is only to be done under staff supervision.

11.2.20 THEATER AND STAGE SAFETY

2. Wear proper gloves when handling hot lighting equipment and changing lamps.
3. All electrical, ladder, lift, and rigging rules apply while you are working with lighting equipment.
4. Return unused gel, cable, lights, and accessories to proper storage areas when work is complete.
5. Clean up electrical equipment and accessories from stage and light room.
6. Store equipment on proper carts and pipes in light room.
7. Report any damaged equipment to supervisor, tag it, and remove it from service.
8. Unplug lighting instruments before changing lamps.
9. Safety cables are required on all stage lighting equipment and accessories.

M. Low Light Levels, Hazards, and Safe Working Practices

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

1. Use caution in low light level situations.
2. Sound off when stage lights are going to black.
3. Know where flashlights are kept and use them when necessary.
4. Stop all hazardous activity during low light levels.
5. If a blackout occurs and nothing is visible, stop immediately. Sound off and wait in place for assistance.
6. Provide running lights for major pathways whenever possible, being careful not to run cords *across* any walkways.

N. Noise Levels, Hazards and Safe Working Practices

Loud noise levels are present both in the shop and on stage. These noises come from machine tools as well as theatre sound systems. Prolonged exposure to loud and continuous levels of noise can severely damage or impair one's hearing.

1. Wear ear protection when operating or in the vicinity of loud machinery and tools.
2. Wear ear protection when exposed to loud and prolonged sound from theatre audio systems. Ear muffs and plugs will be made available by the technical director or other appropriate supervisor. For questions or help with hearing protection, see Baylor

11.2.20 THEATER AND STAGE SAFETY

University's **Hearing Conservation Plan**, or call the Department of Risk Management at 710-4586.

O. Obstructions, Hazards and Safe Working Practices

Many obstructions are present in the shop and theatre work areas. These hazards include, but are not limited to, overhead wires, cables and scenery, flexible work areas, temporary storage of scenery, materials and settings, and various floor obstructions as stated above. Extreme caution should be used in all work areas.

1. Be aware of changes in working areas.
2. Use caution when moving objects in, around, and out of the stage and shop areas.
3. Clean up and properly store all tools, materials, and scenery when finished with a project.
4. Mark off and alert others of temporary obstructions.
5. Do not block aisles, hallways, fire exits, doorways, fire doors, fire equipment, or electrical panels.
6. Notify shop supervisor of any unsafe conditions immediately.

P. Overhead Work Areas, Hazards and Safe Working Practices

There are many overhead work areas in the theater environment including areas in and around the shop, on stage, and in the auditorium. These areas include: ladders, lifts, platforms, grids, and catwalks. There is always a chance that something or someone may fall from an overhead work area. Be cautious when working overhead as well as below.

1. Sound off when working overhead.
2. Hard hats are required below when overhead work is in progress.
3. Secure all tools and equipment when working overhead.
4. Stay inside catwalks and railings when working overhead.
5. Sound off if something is dropped when working overhead.
6. If one does not feel safe working at heights, the supervisor should be informed.
7. Do not drop objects from any height over four feet; lower them down with a rope.
8. Empty unsecured objects from pockets before climbing to grid or catwalks.
9. Do not look up if someone sounds off. A hard hat will not protect one's face or teeth.
10. Use safety lines at all times when working in unprotected areas.

11.2.20 THEATER AND STAGE SAFETY

11. When changing weight at a loading gallery above the stage floor, the floor must be cleared to the proscenium arch and center line before any weight is moved. A floor monitor must be present at all times to ensure the area below remains clear. Sound off when starting and when finished.
12. Do not leave unsecured tools or materials unattended in overhead work areas.

Q. Painting, Hazards and Safe Working Practices

Most paints in the scene shop are non toxic acrylic, or latex water-based paints. However, spray paints and enamels are sometimes used. These paints can create health, as well as safety hazards. Caution should be used when spraying any type of paint.

1. A particle mask rated for spraying latex and/or acrylic paint and goggles are required for all present when spraying acrylic and latex paints.
2. All spray paint (cans) should be used in well ventilated areas.
3. Goggles and a particle mask rated for spraying paint should be worn when painting overhead or using spray cans.
4. Clean up paint spills immediately.
5. Clean up buckets, brushes, and rollers when finished painting.
6. Mark and block access to wet painted floor areas.
7. Check paint frame for obstructions or loose objects before raising or lowering.
8. Sound off before moving paint frame.

R. Pneumatic Tools, Hazards, and Safe Working Practices

Pneumatic tools run from compressed air. Safe use and thorough knowledge of these tools is required before use. Training should be conducted by the technical director or other appropriate supervisor. Records of this training will be maintained by the technical director or other appropriate supervisor. Our pneumatic tools consist of staple guns, air nozzles, and sprayers.

1. Eye protection is required when using any pneumatic tool or nozzle.
2. Never point a pneumatic tool toward oneself or another person. Failure to abide by this will result in termination.
3. Never carry a pneumatic tool by the hose.
4. Disconnect the tool when not in use or while loading or unloading staples or paint.
5. Inspect the tool and hose before use.

11.2.20 THEATER AND STAGE SAFETY

6. Report any damaged tool to supervisor, label the tool, and remove it from service.
7. Do not disable the safety mechanism on any pneumatic staple gun.
8. Compressed air shall not exceed 100 PSI for air guns.
9. Compressed air shall not exceed 30 PSI using a constricting nozzle.
10. Compressed air shall not exceed 10 PSI for cleaning and blowing off clothing.

S. Power Tools, Hazards, and Safe Working Practices

Power tools include large permanent machine tools as well as portable power tools. These tools can be dangerous as they have electrically operated blades and cutters. Extreme caution should be used when operating and making adjustments to these tools. Safety training for a power tool must be completed through the technical director or another appropriate supervisor before use. Records of these training sessions will be maintained by the technical director or other appropriate supervisor.

1. Students are not required to operate power tools.
2. Never carry a portable power tool by the cord.
3. Never yank the cord from an outlet. Disconnect it by pulling on the plug.
4. Keep cords away from heat, oil, water, and sharp edges.
5. Never handle or operate tools with wet, oily, or dirty hands.
6. Keep cords, hands, and clothing away from moving parts of the tool (i.e., blades, bits, and cutters).
7. Disconnect tools when not in use, before servicing, and before changing bits, blades, and cutters.
8. To avoid accidental starting, do not hold finger on the switch while carrying a plugged in tool.
9. Inspect tools and cords for damage and defects before each use.
10. Do not use a damaged tool or cord. Label it and remove it from service by turning it in to the supervisor. Do not attempt to repair it.
11. Do not remove, alter, or disable any guard or safety device on any power tool.
12. Wear safety goggles when using any power tool.
13. Wear appropriate ear protection when using power tools. Departments will provide PPE (personal protective equipment); the Department of Risk Management may provide consultation towards selection of proper PPE, as needed or requested.

11.2.20 THEATER AND STAGE SAFETY

14. All operators of power tools must be trained in proper use and safety of the tool prior to operating it. The shop staff will keep a list of persons authorized to use power tools.
15. Allow the tool to reach full speed before use. Stay with it until it stops. Do not leave a running machine unattended.
16. Do not restart power tools until they have come to a complete stop.
17. Inspect materials before use. Remove screws, nails, staples, or other material before cutting into used woods.
18. Make any necessary adjustments to power tools with the power turned off.
19. All special setups must be checked by supervisor before power is turned on.
20. Stand to the side of the power tool when turning it on. Do not stand directly in line with the saw blade or other moving devices.
21. Observe safety space. Only the operator is permitted within the working area around a machine.
22. Keep the power tool and related work area clean and free of debris.
23. Repairs to shop power tools are only to be made by qualified shop staff.

T. Rigging, Hazards and Safe Working Practices

Rigging and running scenery for stage use can be a dangerous task if not trained in the safe operation of the rigging system. All persons using or conducting other activities around or near any of the stage rigging systems must first be trained in safe use and operation. There are many hazards that can cause serious injury and damage. Weights are loaded above, scenery is constantly moving in or out, and obstructions and weight limits are always present.

1. Do not use the rigging system without proper training from the technical director or other appropriate supervisor.
2. Do not operate the rigging system without a spotter present.
3. Be sure that load is properly balanced.
4. Do not leave a line set while it is unlocked.
5. The attachment of scenery to batten shall be done under the supervision of an authorized member of the shop staff.
6. Changing weights shall be done under the supervision of an authorized member of the shop staff.
7. When changing weight at a loading gallery above the stage floor, the floor must be cleared to the proscenium arch and center line before any weight is moved. A floor

11.2.20 THEATER AND STAGE SAFETY

monitor must be present at all times to ensure the area below remains clear. Sound off when starting and when finished.

- 8. When loading a batten, always load the batten first, the arbor second.
- 9. When unloading a batten, always unload the arbor first, the batten second.
- 10. Sound off when moving a line set in or out.
- 11. Do not move a line set without warning persons working on the grid.
- 12. If a line set runs away and is too heavy to safely stop, warn all present and take cover.
- 13. The locking rail should be labeled with what is on each line set and what line set is not to move.
- 14. Test all running lines before each show.
- 15. In a performance situation, only move lines on cue. Moving a line set before a cue could cause severe injury or damage to persons and property on stage.
- 16. Observe all spike marks.
- 17. If you are unsure about any aspect of the rigging system, ask supervisor.

This list of hazards and safe working practices is by no means the limit to which one should be careful. Think safety at all times. If ever in doubt of something, ASK. Report any hazardous equipment to supervisor. Safety is our main concern for a safe and productive theater environment.

Formulated: 07/04

Reviewed: 01/20/06

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[Signature on File] _____

Warren A. Ricks, CRM
Chairman, Risk Management Committee
Assistant Vice President and Chief Risk Management Officer

Date

[Signature on File] _____

Charles D. Beckenhauer
General Counsel

Date

11.2.20 THEATER AND STAGE SAFETY

[Signature on File] _____

Dr. Reagan Ramsower
Vice President for Finance and Administration

_____ Date