



Risk Management Considerations for Woodworking, Auto and Tech Shop Standards for Schools

Technological studies such as woodworking and auto mechanics offer students valuable skills. But these classes can come with many inherent dangers. Schools and instructors have the difficult task of providing the required Duty of Care owed to the students which include:

- Proper supervision
- Instruction on the equipment
- Instruction on how to protect themselves
- Instruction on how to work safely

Risk Management Techniques

Instructors should utilize effective risk strategies. These strategies include risk identification, risk avoidance, risk control, loss reduction and monitoring programs to minimize the potential hazards. In addition to these initiatives, instructors need to retain accurate and current documentation for all of the programs for which they are

in charge. This will serve as a means for proving that the instructor has completed their due diligence should an injury occur.

1. Risk Identification

Teachers need to be well trained and aware of all the hazards that each piece of equipment may present so the hazards can be conveyed to the students. Teachers should inspect all tools and equipment before, during and after each class to ensure they are in proper working order and all safety measures are in place and working properly. In addition, the teacher needs to identify and know the skill level of each individual student and assign work based upon level of experience, confidence and behavior.

2. Risk Avoidance

Avoiding the activity altogether can diminish the students learning new skills. Instead, risk avoidance should be used to minimize the risk exposure in highly dangerous activities.

This may include:

- Not using equipment that is above the skill level of the student.
- Not using equipment that is damaged or missing protective guards.
- Having the instructor complete difficult tasks such as cutting or, grinding.
- Having the instructor work one on one with the student to complete the work or recommending alternate tools that can be used to complete the task.

3. Risk Control

Teachers need to have well defined teaching plans that will allow students to work safely. Topics may include teaching shop safety and shop rules. Students should complete a test and sign a safety agreement stating that they understand the rules.

Students should know what to do in the event of an emergency or injury. Each student should be instructed and tested on safety rules for each individual piece of equipment in the shop. Operation of the equipment and safety rules should be reviewed daily, weekly or periodically as the teacher see fit and based upon the experience level of the student or class. Teachers can issue training certificates for shop safety, pieces of equipment, injury prevention and emergency preparedness to the students. Teachers should also double check all training records with student attendance to ensure all students have received the same and appropriate training on all of the equipment and safety procedures.

4. Loss Reduction

Teachers should have procedures in place for when injuries or accidents occur. This could include automatic shutdown of all machinery and tools, audio and visual notification devices, proper injury reporting, first aid procedures and emergency contact procedures including, emergency services, main office and parents or guardians.

5. Fire Separation:

Having properly recorded and organized documentation is very important especially in the event of an accident or an injury. Documentation should include:

- Teaching plans
- Training and safety records

- Attendance sheets
- All certificates which have been issued
- Emergency contact information sheets for all students in the class

Records on the teacher's training and certifications should also be kept as should any information pertaining to upcoming training or re-certifications. In addition, records of all accidents, injuries and even close calls should be kept to evaluate the cause and determine preventative actions that can be implemented to prevent these occurrences in the future.

Safety Tips for Wood Shops

Wood shop injuries can range from non-life threatening to devastating and extreme. Below are some tips that should be shared with students to help mitigate the risk of injury:

- All tools, equipment and electrical cords should be inspected for proper operation and function prior to each class.
- Ensure all guards are in place and in proper working order.
- Do not turn machines on until ready to start your work and turn the machine off when you are finished and never leave your machine unattended. Allow the machine to reach full speed before using it.
- If the machine does not sound right, vibrates or any smells or smoking are present, shut down the machine immediately.
- Use the proper push sticks or push blocks.
- Wear eye and face protection to protect against hazards such as flying wood chips, broken saw teeth and wood dust.
- Wear proper hearing protection whenever required.
- Dust masks should be utilized where high levels of dust are present as prolonged exposure to dust can irritate the eyes, nose, throat and lungs.
- Regular clean-up of dust is required to minimize the potential for fire, explosion and spontaneous combustion. Consult the local fire department for municipal requirements.
- Make sure an "off" button is always within reach while operating machine.
- Always turn off or unplug machine before inspecting, fixing or cleaning. Disconnect the machine from all sources of power.

Safety Tips for Auto Shops

Auto shop injuries can be as minor as cuts or scrapes or as severe as a student being pinned under a vehicle or poisoned due to exhaust inhalation. Ensure your auto shop class has considered the following:

- The class instructor should control access to all keys for vehicles in the auto shop.
- Move the vehicles in and out of the work area outside of class hours and preferable when there are fewer persons present.
- Wheel blocks are to be utilized on all vehicles while being worked on in the shop.
- Vehicles should not be left inside the building overnight.
- Never drive a vehicle into the class area with defective brakes, the vehicle should be pushed into the shop.
- Never bring vehicles with a gasoline leak into the shop area.
- Get permission and proper instruction before using any hoist, lift or jack. Use the proper lift points when raising a vehicle. Watch for overhead obstructions when raising the vehicle and ensure all persons and equipment and tools have been removed from under the vehicle before lowering the vehicle.
- Use the flexible exhaust hose to vent engine gases and ensure it is connected to the vehicle before starting the engine inside. Exhaust vapors contain carbon monoxide and other hazardous substances.
- The installation of steel concrete filled posts should be considered in work areas, to protect students while vehicles are moved in and out of the work area.

General Safety Tips for All Technology Shops

- When working in the shop, students shall be alert and well rested.
- Plan the work and work the plan.
- Limit or control class size, only registered students should be in the shop.
- No headphones or electronic communication devices allowed in the shop.
- No food or drink in the shop.

- Post emergency contact numbers and information in an accessible location.
- Wear close fitting clothing. Students working in the shop should wear pants (no shorts or skirts).
- Students working in the shop area must wear closed toed shoes (no sandals).
- Do not wear gloves if there is a chance they may get snagged and pull your hand into the equipment.
- Long hair should be tied back so it does not become tangled or caught in any moving machinery.
- Students must wear safety glasses at all times in the shop area.
- All jewelry should be removed prior to starting any work to prevent being caught in any moving parts.
- Ensure fire extinguishers must be present and accessible at all times.
- Ensure walkways and exits are kept free of storage and tools.
- If extension cords or air hoses are used, ensure they are not across walkways and cleaned up after use to prevent tripping hazards.
- Inspect all tools, machines and safety equipment before use.
- When carrying tools, sharp pointed objects should be pointed down.
- Do not carry tools in your pockets.
- A proper clean-up of the work area shall be completed at the end of each class. Clean up includes returning all tools to their proper location, cleaning up any spills or leaks. Spills of oil and paints should be cleaned using absorbent materials and rags, rags shall be disposed of in fire rated container with a self-closing lid.
- Compressed air should not be used for cleaning the work area or clothing.
- Only use tools for their designated purpose.
- Do not use damaged or worn tools.

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