Safety in the Career and Technical Education Laboratory

How to keep your students safe and working productively – and keep you out of trouble.

What is Safety?

- Safety is . . .
  - Freedom from danger, risks or accidents that may result in injury, death or property damage.

Why do we worry so much about safety in CTE Laboratories?

- Every CTE Laboratory has dangerous areas
- Immediate student welfare
- Development of essential safety habits

From the teacher's standpoint:

- We care about students and don't want anyone to become injured
- We want to get students totally prepared for a successful future
- We want to protect our own welfare
  - Teachers who fail to provide satisfactory safety instruction and supervision may be found liable

Legal Duties of an Instructor

DUTY TO INSTRUCT

- An instructor who does **NOT** instruct properly could place a student in a dangerous situation where the lack of appropriate information might contribute to an accident.
- A prudent instructor must **ANTICIPATE** and **EXPLAIN**, proper safety concerning any problems that may arise.

Legal Duties of an Instructor

DUTY OF SUPERVISION

- Instructors are responsible for **APPROPRIATE BEHAVIOR** on the student's part.
- If one student hurts another it is the instructor who is the responsible adult.
- Instructors must teach and maintain **CLASSROOM CONTROL**.
  - The instructor is **"IN LOCO PARENTIS"** – he/she is the local parent and the responsible adult during the educational experience.

Legal Duties of an Instructor

DUTY TO MAINTAIN

- Instructors are responsible for seeing that **EQUIPMENT** is kept in safe working order.

Legal Duties of an Instructor

UNDERLYING REASON AND PRUDENCE

- Common sense dictates that if you are doing what you should to protect students, yourself and others while providing a learning experience, then you should avoid most legal situations
- As you, the instructor, ponder your concerns involving facility, hand tools, power tools and equipment that may pose a risk to students, you must take ***reasonable and prudent*** steps to prevent accidents from happening.

Managing Risk

- Teachers are responsible for seeing that equipment in the lab is kept in safe operating condition.
- Teachers are responsible for providing instruction and demonstrating safe and proper operation procedures for each piece of power equipment, portable power hand tools, and other hand tools, as well as cleaning and/or finishing procedures.
- Teachers must plan ahead and be aware of potential dangers and problems.

Managing Risk

- Teachers must have and maintain order and control in the classroom and/or lab.
- Teachers must teach a proper degree of respect for the dangers that are inherent in the lab or shop.
- Teachers should **never** leave students unattended.
- Teachers cannot delegate the responsibility for a class to a student (TA).

Managing Risk

- Students should receive a copy of the safety rules for each piece of equipment prior to use.
- Student must pass a general shop safety test with a score of one hundred percent (100%).
- The teacher should keep safety test scores until the student is twenty-one (21) years old.
- Students need to sign a document saying that they will not use any equipment until they have observed a demonstration on that piece of equipment, received a copy of the safety rules, passed a safety test at 100%, and received the instructor's permission.

Managing Risk

- Parents should sign a parent awareness/permission form before the student uses any equipment.
- Do not underestimate the seriousness of an accident.
- After the pressure of an accident has subsided, fill out a Student Injury Report Form.
- Keep a copy of accident records.
- CTE directors, administrators, principals, counselors and teachers must be reasonable and prudent in seeing that classes are not overloaded.

CTE Program Standards

Instruction:

- Curriculum and instruction must be directly related to business and industry, state or local advisory committees, validated competencies, and task lists.
- Instruction is outcome-based, and verification of competence is determined by mastery of a business/industry-validated criterion-referenced test.

CTE Program Standards

Instruction:

- Task lists and criterion tests shall be developed and provided by the USOE.
- Instruction in proper and safe use of any equipment required for mastery and competency shall be provided within the approved program.

CTE Program Standards

Tools, Equipment and Facilities:

- Tools, equipment and facilities, consistent with the validated task lists identified in the instruction standard, shall be provided and maintained in a manner that meets safety requirements and applicable state and federal laws.

CTE Program Standards

Instructional Staff:

- Instructional staff must hold a valid Utah Professional Educator License with endorsements appropriate for the programs they teach.
- CTE program instructors must keep technical and professional skills current through business/industry advisory committee involvement in order to ensure that students are provided accurate and safe state-of-the-art information.

CTE Program Standards

Program Advisory Committee:

- Each state-approved CTE program must be supported at the Local Education Agency (LEA) level by a program advisory committee made up of individuals who are working in the occupational area the program teaches.
- Small rural districts may apply for a waiver to this committee requirement.

Safety Awareness

Instructor Demonstrations:

- Students should attentively watch *all* demonstrations given on proper hand and power tools use, maintenance and storage; first aid station locations; etc., and be tested on such critical information.

Safety Awareness

Personal Protective Equipment (PPE):

- Student should be informed of any and all PPE requirements for using specific hand and power tools (such as Z87.1-approved eye protections, steel-toed shoes, gloves, properly shaded welding helmets, OSHA-approved hard hats, proper hearing protection, tucked-in or rolled-up clothing, tied-back hair, removal of jewelry, etc.) as the situation requires.

Safety Awareness

Cleanliness Reduces Accidents:

- Dirty, cluttered and oily tools and work areas can cause accidents.
- Students should clean and put away unneeded tools and materials and maintain a large enough workspace for the job being done.

Safety Awareness

Cleanliness Reduces Accidents:

- Students should unplug and properly store power tools when not in use and avoid using power tools in damp or wet areas.
- They should also work in a sufficiently lit workspace and keep paths to exits clear.

Safety Awareness

Proper Tool Usage :

- Instructors should always inspect hand and power tools before authorizing students to use them.
- Electrical tools *must* also protect the user from electrical shock by providing "double insulated," grounded and/or Ground Fault Circuit Interrupter (GFCI) protection.
- Damaged or broken hand or power tools should *not* be used.

Safety Awareness

Proper Tool Usage :

- Students should always use tools only for the job for which they were intended.
- Forcing a small tool to do a job meant for a large one, dulled tools, tools in disrepair, broken or missing power tool guards, exposed electrical wiring or power tools, striking hand tools not meant to be hit, carrying sharp tools in pockets or with tips pointed in a direction other than straight down, etc., are some examples of hand and power tool misuse.

Safety Awareness

- **Secure Work-piece**:
  - Students should use a vice or clamps to secure small projects that are too difficult or dangerous to hold by hand.

Safety is an attitude

- Model Safe Behavior – safety glasses, etc.
- Remind students daily and throughout the laboratory period
- Create a safety-conscious environment
  - Color Coding
  - Safety posters
  - Guards and safety devices in place
  - Lab is neat, clean and well-lit