South Central College
North Mankato/Mankato Campus
1920 Lee Boulevard
N. Mankato, MN 56002-1920
Faribault Campus
1225 Third Street SW
Faribault, MN 55021-5782

Adoption Date: 07-30-12
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Welding Laboratories Safety Plan

Contents

A. PURPOSE AND SCOPE

This plan is meant as a guide for persons using and/or managing the Welding Laboratories (WL), and to highlight the regulations and standards expected to be used on a daily basis. The elimination of unnecessary safety hazards from the workplace is critical. The Faculty and Staff who work in the WL reaffirm their commitment to this plan. We ask you to join us in this commitment to safety: "Safety is everyone's responsibility."

B. GENERAL LABORATORY USE

1) General

a. All those using the WL must complete WL orientation and agree to follow the policies and procedures developed for this area.
b. Instructors must complete orientation at least two weeks prior to any scheduled sessions.
c. All users are responsible for following the safety and maintenance procedures listed in this document.
d. Procedures are subject to change. The current plan will be posted on the SCC website and anyone using the lab is responsible for being aware of the most recent plan.
e. All laboratory usage must be scheduled through the college room scheduler.

2) Orientation

a. All users must complete the orientation process as outlined in this plan:
   Policies and Procedures for Use of the Welding Laboratory
   - General Laboratory Use
   - Emergency Procedures
   - Safety Procedures
   - Equipment and Laboratory Maintenance
   - Eye Safety Policy

b. All users are responsible for providing documentation of orientation as required in Forms A and B included at the end of this plan.
c. These policies and procedures will be posted on the SCC website.
d. For credit students this plan will be posted on D2L
e. Signed and completed Forms A and B will be forwarded to the Security and Safety Director.

3) Storage

a. All users are responsible for the storage of their own materials and supplies. Storage of supplies should not be within the confines of the laboratories without permission of the welding lab coordinator on each separate campus. South Central College will not be responsible for supplies or materials left in the laboratories. Any supplies left in the laboratories with permission of the appropriate laboratory coordinator shall be marked as to ownership.

4) Materials and Supplies

a. All users are responsible for the security of their materials and supplies during their lab time.
b. All users are responsible for the procurement of their own supplies.
c. Anyone using someone else's supplies must replace or reimburse the owner and will be charged a 20% fine.

5) Maintenance

a. All users must follow procedures listed under section "D" Equipment and Laboratory Maintenance Procedures. Any equipment found to be in need of repair should be brought to the attention of the appropriate laboratory coordinator prior to beginning any instructional or usage session.

b. All users must clean up and complete the Cleanup Checklist at the end of each use. General maintenance fees will be charged by percentage of usage.

6) Sign-Out Procedures

a. After each use of the WL all users must sign out of the lab by completing the Cleanup Checklist. The Cleanup Checklist shall be obtained from the appropriate campus laboratory coordinator prior to usage of the laboratory and returned to them at the conclusion of each usage session or time period.

7) Request for Repairs

a. All repairs must be documented, identified, and reported to the appropriate campus lab coordinator immediately. If the lab coordinator is not available contact the Dean's office. Any equipment deemed in need of repair shall be locked out and tagged out as appropriate by College Maintenance personnel immediately such that it is impossible to operate the equipment until repairs are completed.

8) First Aid Kit

a. A first aid kit is located in the WL in the event of injury as appropriate. Anytime supplies are used from this kit the lab coordinator must be notified. Additionally if an injury occurs, a first report of injury shall be completed by the injured individual or their instructor if they are unable. This must be completed and filed within 24 hours of the incident. Forms can be obtained at Human Resources on the North Mankato Campus or the Administrative Offices on the Faribault Campus and must be returned to them completed within the 24 hour time period.

b. An eye wash station is available in each lab. Anytime something enters the eye and is irritating the eye the eye wash station shall be used. Flush eyes for 15 minutes and then seek medical attention. Additionally the first report of injury must be filed as above.

9) Safety Data Sheets (SDS)

a. A SDS station is located in each campus WL. This manual should be referenced anytime a hazardous product is spilled, leaked, or inappropriately or unnaturally escapes its container. A familiarity with this plan shall be part of the orientation process prior to any usage of the WL. Anytime a product escapes its container inappropriately the campus lab coordinator should be notified immediately. In the event of large release or spill refer to the emergency procedures, section C.

C. EMERGENCY PROCEDURES

1) Fire, Explosion, Evacuation Plan

a. Fire/Evacuation alarm: If you hear the Fire/Evacuation alarm, you are to evacuate this room. Extinguish flames and shut off equipment if this can be done quickly and safely. Your primary evacuation route is posted on the classroom door under the sign that says "EXIT." If that route is unusable use the secondary route of the overhead door. You are to quietly and swiftly evacuate to the parking lot and await further instructions. Do not reenter the building until it is declared safe by the authorities.

If you detect a fire or related emergency:

a.) Verbally warn others

b.) Pull the Fire Alarm station. Pull station is located by the entrance to the classroom.

c.) Call 911 from a safe place and inform them of the situation. As able and appropriate, dial 6 from a college system land line phone. You will be connected with Human Resources or Student Services. Report the situation to them as well so they may assist in alerting campus wide as to the emergency.

2) Fire Extinguishers

Fire extinguishers are located inside the Welding Laboratory and in hallways outside the Lab. Extinguishers should only be used by personnel who have been trained in their use. The primary purpose of extinguishers is to help you safely exit the area. Generally, extinguishers must be small enough and light enough to be portable, so they do not have a large capacity. For all but the smallest fires, use the extinguisher to position yourself and others for a safe evacuation and do not remain in the room to attempt to extinguish the flames entirely.

3) Hazardous Material Spill or Leak

a) Gas Leaks:

1.Large, uncontrollable gas leaks: leaks that involve the sudden, uncontrollable release of large amounts of flammable or explosive gas, or smaller leaks discovered to have built up in a space over a long period of time, require immediate evacuation of all personnel from the building. Verbally warn others in the area, and use the Fire Alarm pull station. See the Emergency Procedure above for **Fire, Explosion; Evacuation Plan**.
2. **Small gas leaks**: shut off the cylinder valve. If this does not stop the leak, move the cylinder outside to the middle of the parking lot, away from buildings, boats, and sources of ignition. Do not leave the cylinder unattended. Cylinders are never really "empty." Never return a cylinder which was leaking to the inside of a building or other confined space. Call Mississippi Welders for Faribault Campus 651-388-1836 or North Mankato Campus 507-625-9055 to have them pick up the leaking cylinder. Contact information for both locations:

Mankato

215 Maxfield Street
Mankato, MN 56001
Google Map

Phone: (507) 625-9055
Fax: (507) 625-9056
mankato@mwsco.com

Store Hours:
Monday - Friday 7am - 5pm

Red Wing

5211 Moundview Drive
Red Wing, MN 55066
Google Map

Phone: (651) 388-1836
Fax: (651) 388-1838
redwing@mwsco.com

Store Hours:
Monday - Friday 7am - 5pm

b) Flammables, Explosives

1. Flammables and explosives: such as paints, solvents, and fuels, in large quantities, treat as a fire or explosion hazard. Verbally warn others in the area, and use the Fire Alarm pull station. Evacuate all personnel from the building. For small spills, less than a pint, evacuate the Welding Laboratory, open all doors and windows, and allow the material to evaporate or clean it up in accordance with the SDS .

c) Other Hazardous Materials

All other hazardous materials should be treated in accordance with SDS.

D. SAFETY PROCEDURES

General

Remember the following:

a. **ELECTRIC SHOCK CAN KILL.**
b. **ARC RAYS CAN BURN.**
c. **FUMES AND GASES CAN BE DANGEROUS.**
d. **GAS CYLINDERS OR EQUIPMENT MAY EXPLODE IF DAMAGED.**
e. **MOVING MECHANICAL EQUIPMENT CAN INJURE.**
f. **NO CELL PHONES IN THE WELDING LABORATORY DURING USAGE**

Permissions

1. Permission to operate equipment and power tools must be obtained from the Faculty or Staff member present in the Lab at that time.
2. No one may work in the WL without a qualified Faculty or Staff member present.
3. Students and all other personnel may only operate WL equipment and power tools of the type for which they were trained by an SCC Welding Instructor.
4. Zinc, lead, beryllium, cadmium, mercury or compounds or coatings containing them; and, cleaning, degreasing, and painting are not allowed without express approval of the instructor. **1910.252(c)(1)(iv)**

Clothing, Personal Protective Equipment (PPE)

1. The law requires that every person shall wear industrial quality eye protective devices at all times while in the shop area. Safety Glasses must be worn at all times, even under a welding helmet or full face shield.
2. A full face shield must be worn when operating any power grinding, brushing, or other equipment where there is a hazard of flying debris.
3. Proper shoes with hard tops or boots and rubber soles should be worn.
4. Never wear loose fitting clothes, sweater or dangling neckties when working about machinery, avoid wearing trousers with cuffs and open pockets. Do not wear oily or greasy clothes.
5. You must wear goggles when grinding, chipping, or other operations dangerous to the eyes.

Conduct

6. Alcohol and illegal drugs, and the use of them, are prohibited. Even some legal drugs may impair your ability to operate equipment safely, and must not be used when working in the WL.
7. No scuffling, pushing, throwing, or wrestling, etc. in the lab.
8. Return electrodes and filler materials to their proper containers. Do not leave them in the welding booth.
9. Properly and completely shut down all equipment used, particularly primary electric disconnects and gas cylinder valves.
10. Never use oxygen to dust off clothing or work.
11. Report all equipment malfunctions to instructor immediately.
12. Keep work area neat. Littering tools, materials, and trash not only shows an irresponsible disregard for others, it is also dangerous. Clean and sweep work area before leaving.
13. Place waste in proper receptacles to avoid fire hazards. Do not mix combustibles with stubs and slag. Do not put trash in metals recycling. No automobiles, boats, fuel tanks, barrels, drums, or flammables. [29 CFR 1910.252(a)(2)(vi)&(a)(3)]

Safety

14. Do not look at an arc without at least a #10 lens and a helmet. Use curtains or shields to avoid exposing others to arc rays.
15. Do not start machine without first knowing something about the machine.

16. Have all safety guards in place before putting machine in motion.
17. Handle your own starting button or lever of machine you are working on.
18. Do not use chisels or punches with mushroomed head.
19. Do not pound two hardened surfaces together.
20. Never use a file without a handle.
21. Do not hold small work items with a plier when grinding.
22. Tool rests must be set within 1/8" of wheel before grinding or don't grind. Don't grind on the side of wheel.
23. Never drill unless the item being drilled is secured to the table or held firmly against a stop.
24. Use tools only when in good condition. Check with instructor when in doubt.
25. Do not work on any motor or vehicle without having a fire extinguisher close by.
26. Do not leave a machine while it is running.
27. Always use both hands when operating a body grinder.
28. Never try to remedy a malfunction without first consulting instructor.
29. No welding or cutting should ever be done on used drums, barrels, tanks, or other containers.
30. Don't change the polarity switch when machine is under a load.
31. Electric welding should never be done anywhere near cylinders.
32. Always turn off the torch flame unless the torch is held in your hand.
33. The welding arc should never be observed at close quarters with unprotected eyes.
34. Keep oxygen cylinders (and gas) away from oil and grease.
35. Do not use fire extinguisher unless trained to do so. Follow emergency procedures as appropriate.
36. Do not lean materials/sheet metal, iron, etc. against the walls.

E. GENERAL EQUIPMENT AND LABORATORY MAINTENANCE

1. Combustible Waste Disposal: metal waste receptacles with tight-fitting lids shall be provided for combustibles such as paper, rags, plastic cups, etc. Separate receptacles shall be used to dispose of slag, stubs, sweepings from welding or grinding areas, or other potential sources of heat or sparks. Each type of waste receptacle shall be clearly identified.
2. Waste receptacles shall be emptied at the end of each class.
3. When a student finishes work for the day, he/she shall clean the booth and/or other work area(s) used, and any common areas assigned by the Instructor. The student shall return all equipment and materials to their proper storage areas.
4. Compressed air shall not be used for general cleaning where brushing and sweeping can be done instead. Where compressed air must be used for cleaning, such as for removing dust from the interior of welding machines, pressure shall not exceed 30 p.s.i., and safety glasses and a full face shield shall be worn. [29 CFR 1910.242(b)]
5. Designated aisles and walkways shall be at least 28" wide and kept free of any obstructions and/or tripping hazards. **1910.36(g)(2)**
6. Welding cables and equipment shall be placed clear of passageways, ladders, and stairways. [29 CFR 191.252(b)(1)(ii)]
7. Fume and dust collection equipment shall be used wherever fume and dust are regularly generated, such as welding booths, welding stations, and grinding booths.

8. Combustible materials shall be stored at least 36" from heaters and rod ovens.
9. Floors shall be kept clean, dry, and free of waste, debris, oil, and grease.
10. Doors, drawers, and cabinets shall be kept closed when not in use.

FORM A: SOUTH CENTRAL COLLEGE EYE SAFETY POLICY FORM

Eye Safety Law: An act requiring all students, Instructors and Visitor's to wear eye protective devises while participating in or directly observing certain industrial education, physics and chemistry laboratory activities and to authorize and provide for the purchase of such devises.

Be it enacted by the Legislature of the State of Minnesota

121A.32 EYE PROTECTIVE DEVICES

Subdivision 1.Requirement to wear eye protective devices.

Every person shall wear industrial quality eye protective devices when participating in, observing or performing any function in connection with, any courses or activities taking place in eye protection areas, as defined in subdivision 3, of any school, college, university or other educational institution in the state.

Subd.2.Penalty for failure to wear eye protective devices.

Any student failing to comply with such requirements may be temporarily suspended from participation in said course and the registration of a student for such course may be canceled for willful, flagrant, or repeated failure to observe the above requirements.

Subd.3.Eye protection areas.

Eye protection areas shall include, but not to be limited to, vocational or industrial art shops, science or other school laboratories, or school or institutional facilities in which activities are taking place and materials are being used involving:

(1) hot molten metals;

(2) milling, sawing, turning, shaping, cutting, grinding or stamping of any solid materials;

(3) heat treatment, tempering or kiln firing of any metal or other materials;

(4) gas or electric arc welding;

(5) repair or servicing of any vehicle or mechanical equipment;

(6) any other activity or operation involving work in any area that is potentially hazardous to the eye.

Subd.4.Protective-corrective lenses.

Any person desiring protective-corrective lenses instead of the protective devices supplied by the educational institution shall pay for, procure, keep, and use industrial quality eye protective devices.

Subd.5.Industrial quality eye protective devices defined.

"Industrial quality eye protective devices," as used in this section, shall mean devices meeting the standards of the American National Standard Institute, currently identified as Z87.1-1968.

Students Signature_____**Date**

FORM B: STUDENT ORIENTATION

Welding Laboratory Policies and Procedures Acknowledgment Form

I have completed the required orientation process in order to use the SCC Welding Laboratory. This orientation includes:

Policies and Procedures for Use of the Welding Laboratory

- General Laboratory Use
- Emergency Procedures
- Safety Procedures
- Equipment and Laboratory Maintenance
- Eye Safety Policy
- Welding Laboratory Safety Rules

I understand the policies, procedures and rules as listed in this plan.

Student/User Name Date

Instructor Name Date

FORM C: INSTRUCTOR ORIENTATION

Welding Laboratory Policies and Procedures Acknowledgment Form

I have completed the required orientation process in order to use the SCC Welding Laboratory. This orientation includes:

Policies and Procedures for Use of the Welding Laboratory

- General Laboratory Use
- Emergency Procedures
- Safety Procedures
- Equipment and Laboratory Maintenance
- Eye Safety Policy
- Welding Laboratory Safety Rules

I understand the policies, procedures and rules as listed in this plan. I understand that changes may be made to the plan and it is my responsibility to be aware of the most current plan.

Instructor Name Date

Lab Coordinator Name Date