KERN COMMUNITY COLLEGE DISTRICT
Bakersfield College

Department of Industrial Technology

WOODWORKING TECHNOLOGY
STUDENT SAFETY PORTFOLIO

Instructor
Mr. Steve J. Hageman

Student Name:  ______________________________
Date:    ______________________________
SAFETY TEST AND PLEDGE CARDS

Every student enrolled in an Industrial Technologies class must complete and pass all safety instruction, complete and sign an “Acknowledgment of Safety Instruction and Pledge Card” (note sample below), before he/she is permitted to use power-driven machinery. All student safety portfolios must be kept on file in the Industrial Technology office until the class has been terminated.

As another means of impressing upon the student the importance of lab safety, we are requesting that you sign the form below. NO STUDENT WILL AT ANY TIME BE FORCED TO USE POWER TOOLS. However, no student will be permitted to use power tools unless this form is properly signed and filed in the Industrial Technology Office.

STUDENT DECLARATION

By my signature below, I declare that I have been properly instructed in the safe operation of machine tools and general safety measures. In the event of an accident, I shall not hold the Kern Community College District, Bakersfield College, or the instructor of record responsible. I pledge to cooperate fully with all safety related instruction and practice safety at all times while engaged in the course curricula.

____________________________________  _____________________ __________
Student Signature      Date    Initial
**Bakersfield College Woodworking Technology**  
**Student Information and Signature Sheet**

**Directions:** PLEASE PRINT all information requested. **There are TWO sides to this form. Be sure and complete both sides, with the proper signatures.** Students will not be allowed to begin lab work until this completed form is turned in to the instructor.

Student Name: ________________________________ Age: ________ Semester: ____________

Address: ________________________________ Zip: ________ Phone: ________________

Occupation: ________________________________ Position: __________________________

Place of Work: ________________________________ Work Phone: ______________________

Best time to contact: ______________________________________________________________

1. List all of the physical skill course you have completed at any private or public institutions:

   __________________________________________

   __________________________________________

2. Prior experience related to this course?

   __________________________________________

3. Briefly describe what your expectations are from this class.

   __________________________________________

   __________________________________________

4. Briefly describe any project you wish to build upon completion of the required work.

   __________________________________________

   __________________________________________

**Your Current Schedule**

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I understand what is expected of me in this woodworking course and plan to meet those expectations.

Student Signature ________________________________ Date Signed __________________________
Dear Student:

Students are asked to read this material, sign, and return the form promptly.

The personal safety and health of students and instructors has high priority at Bakersfield College. Accident prevention must be a major concern in all areas of instruction. Emphasis is given to the importance of relating safety awareness to the daily life of the student in the classroom, in the home, and at work. Every student will indicate an understanding of safety rules and regulations by reviewing specific safety related information and participating in instructor driven safety presentations and demonstrations.

The operation of power tools and machinery is a requirement in most classes. However, no student will be permitted to use power tools or machinery until the student has successfully completed the classroom instruction/demonstrations, and this form is properly signed, dated, and returned to the instructor in charge.

Students who create hazards or cause unsafe acts either by their conduct or by not conforming to the safety standards may be removed from the class.

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**Student Declaration and Pledge**

By my signature below, I declare that I have been instructed in the safe use and operation of power tools and machinery. I will seek out the course instructor and ask questions as deemed necessary. I pledge to work safely and be a responsible student.

__________________________________  ______________ ___________
Student Signature     Date Signed

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**Teacher Certification**

All required safety instruction/demonstrations have been passed and are on file.

__________________________________  _______________ _________
Instructor Signature     Date Signed
1. Safety first and foremost! You may improve your working conditions by treating your fellow students, materials of others, equipment and shop facilities with the utmost respect.

2. Combination lockers will be checked out to each student. It is suggested to store work clothing, measuring tapes, books, and personal items. Please no oily rags!

3. All projects and materials will be stored in the Materials Storage Room unless otherwise instructed.

4. Stock being glued into panels shall be stored in the Materials Storage Room until dry. All stock must be labeled with the following information: Student name, class number, date and time glued together.

5. The spray room is to be used to apply finishes on projects ONLY! … no sanding, etc.

6. The spray guns are to be used to apply transparent finishes ONLY. The guns and pots are to be thoroughly cleaned after each use (or at the end of the period). No colored paints or lacquers are to be sprayed without the permission of the instructor.

7. Be respectful and careful of other projects in the spray room and storage areas.

8. The spray room shall be cleaned after each use and all finishing materials returned to their proper storage area.

9. Soiled rags will be placed in the YELLOW covered metal container located in the spray room.

10. Each student will be responsible for his/her own work areas and will take part in the general shop maintenance and upkeep.

11. No student is excused from class until the lab has been cleaned, tools and safety glasses returned, equipment returned to the standard condition, and the instructor has announced dismissal.

12. All students are expected to maintain a quality attendance record during all lab and lecture hours.

13. If an absence is unavoidable, please notify the instructor in advance if possible.

14. Assignments and activities are designed to provide students with valuable information and necessary manipulative skills. Success depends upon the amount of effort you extend toward these assignments.

15. Safety glasses must be worn while using any power machinery, portable hand tools, or hand tools such as glue scrapers while in the wood laboratory at Bakersfield College.

16. No equipment shall be used unless you have received complete safety and operational instructions and you have read, understood and signed the required safety instruction sheets.
SECTION II
GENERAL SAFETY PRECAUTIONS AND INSTRUCTIONS

The following safety rules have been put together for the use of students taking classes in the Applied Science and Technology labs. Safety rules MUST be followed by all students! Those students who do not follow these safety rules may be dropped from the class.

A copy of these rules will be given to each student to study at the beginning of class. Safety is a part of what should be learned. Additional rules will be given by your instructor as each new machine is introduced.

PERSONAL PRECAUTIONS:

ALL accidents can be prevented! Safety is everyone’s responsibility. With common sense and personal attention to the job being done, injury to yourself and others can be eliminated. ALWAYS THINK SAFETY!

1. In case you are hurt, even though you think it is insignificant, tell the instructor at once. Small cuts and scratches may get infected.

2. Students should learn appropriate safety habits for their own safety as well as the safety of others. Talking to or bothering another student while he/she is working is dangerous.

3. You must not play around or run in the lab. This sort of behavior is called “irresponsible” and may cause you or others to be hurt, and is a good reason for you to be dropped from the class.

4. Keep your mind on your work. Thinking about other things can cause an accident.

5. Before starting to work, take off any rings, watches, bracelets, or sweaters. Roll up your sleeves above the elbows and tuck in loose clothing. Doing this may keep them from getting caught in the machine.

6. Only clothing appropriate for the work being performed should be worn. (CAL/OSHA 3383)

7. Do not lift anything that is heavier than you are able to handle easily. Squat down in picking up heavy things. Use the leg muscles and keep the back nearly straight up and down and the knees together. Doing this will prevent a rupture or back injury.

8. Hold sharp points down, cover sharp edges, and do not carry sharp or pointed tools in the pockets. Sharp edges of tools or materials should not stick over the edge of the work bench.

9. If you see danger or a safety violation, notify the instructor immediately.

10. When pounding or cutting, be sure chips fly away from yourself and others.

11. When not sure of a procedure, ask the instructor. Another student may not know.

12. Do not lean or sit on machines or lab equipment at any time … STAY CLEAR.

13. When going into other labs, tell the instructor immediately that you are present.
14. Do not put rivets, tacks, brads, or other small parts in your mouth.

15. Material should not be held in the hand while using a sharp tool. The material should be clamped to a bench top.

16. Keep the handles of tools free from oil and grease so they will not be slippery.

17. A chisel, punch or drill with a mushroomed head should not be used and should be reported to the instructor immediately.

18. Students should be careful when handing tools to another person. Hand sharp tools with the handle first.

19. A student using a sharp tool (such as a knife or chisel) should always cut away from his body and not at other students. Keep both hands behind sharp parts. Do not cut yourself.

20. Make sure that work is clamped in a vise tightly.

21. Legal provisions concerning eye safety in the schools are presented in Education Code sections 32030 through 32034. The most important provisions are the following:

   It shall be the duty of the governing board of every school district … to equip schools with eye protective devices … for the use of all students, teachers, and visitors.

   It shall be the duty of the superintendent, principals, or teachers charged with the supervision of any class in which any such course is conducted, to require such eye protective devices to be worn by students, teachers, and visitors.

   The eye protective devices shall be worn in courses including, but not limited to, … industrial technology shops or laboratories … at any time at which the individual is engaged in, or observing, an activity or the use of hazardous substances likely to cause injury to the eyes.

   Hazardous substances likely to cause physical injury to the eyes include materials which are flammable, toxic, corrosive to living tissues, irritating, strongly sensitizing radioactive, or which generate pressure through heat, decomposition or other means as defined in the California Hazardous Substances Labeling Act.

   Activity or the use of hazardous substances likely to cause injury to the eyes includes, but is not necessarily limited to, the following:
   1. Working with hot molten metal.
   2. Milling, sawing, turning, shaping, cutting, grinding and stamping of any solid materials.
   3. Heat treating, tempering, or kiln firing of any metal or other materials.
   4. Gas or electric arc welding.
   5. Repairing or servicing of any vehicles, or other machinery or equipment.
   6. Working with hot liquids or solids or with chemicals which are flammable, toxic, corrosive to living tissues, irritating, strong sensitizing, radioactive, or which generate pressure through heat, decomposition, or other means.

22. The wearing of contact lenses is prohibited in any working environment where the employee is exposed to harmful materials or light flashes, except when special precautionary procedures that are medically approved have been established for the protection of the exposed individual. (CAL/OSHA 3382)
TECHNOLOGY LAB PRECAUTIONS:

Learning to function under safe lab conditions will make each student aware of the hazards in that particular lab. Learning to work safely by following approved procedures can make the lab a safer place in which to work for you and others.

1. Students may not run any machine until they have been taught to run it safely and correctly.
2. Guards or safety parts shall not be taken off any machine and shall always be used except for special operations that are approved and supervised by the instructor.
3. You may not work with any machine or tools before, during, or after class hours unless you have approval from the instructor and there is a qualified instructor in the lab.
4. Make sure that all students are away from the machine before turning on the power.
5. All parts should be tightened and all tools and materials taken off of the machine BEFORE the power is turned on.
6. DO NOT stop or start a machine for another student. Let the person running the machine turn it on or off.
7. Start your machine and stay with it until you have turned it off and it has come to a complete stop. This may keep other students from being injured.
8. If a machine does not seem to work properly, shut it off and tell the instructor at once.
9. Only the student running the machine and the instructor may stand within the safety zone around any machine.
10. Machinery must never be oiled, cleaned or changed while running. Some part of your body, clothing or parts may get caught by the machine causing an injury.
11. To avoid injury to yourself or damage to a tool, do not tamper or play with lab tools.
12. Keep rags away from moving work and machinery; a rag caught might pull your hand in with it. Rags or loose clothing can be caught and wound up on a smooth shaft.
13. To prevent accidents, WALK … NEVER RUN in the lab.
14. The floor, aisles, and passageways should be kept clear of tools, spilled liquids, and materials to prevent slips and falls.
15. Vise handles should be left in a vertical position.
16. Long pieces of material should be handled carefully so that they will not hurt others.
17. If you are doing anything where something may hit your eye such as flying chips, chemicals, or blinding light, you must use eye protection such as face shield or safety glasses.
18. Good housekeeping is the sign of a safety conscious student. You must keep your tools, job, and place of work free of all dirt, water, oil, and grease.
19. Air hoses are to be used only with the instructor’s permission and should not be pointed at yourself or others.
General Safety
Technology Lab Precautions

20. All stock and materials should be returned to their proper places and stored correctly.

21. Never throw tools, materials, or anything to or at another student.

22. Keep tools sharp at all times. Dull tools are not safe. Do not test sharpness of tools on your fingers. Unsafe tools should be turned in to the instructor at once.

23. Use a brush to clean chips, shavings or scraps from a bench or machine. Use a rag to wipe up oil or grease.

24. Make sure vise jaw caps have sharp corners removed.

25. Never hammer on the vise handle or vise jaws.

FIRE PREVENTION PRECAUTIONS:

When the use of tools, machines, and heating equipment has been learned, the fires and accidents may not happen. Fire is usually caused by someone being careless. Sometimes other people may be hurt or die along with the careless person who started the fire. BE CAREFUL. Save yourself and others from the dangers of fire.

1. Know all fire signals, what to do and where to go in case of an alarm. Walk quietly to the correct door.

2. Keep potential fire hazards away from all liquids and materials that burn.

3. Thinners, kerosene, paints, and other finishing materials should be stored in an approved cabinet or room an never be near an open flame.

4. Keep flammable liquids in a labeled safety can.

5. Finishing materials should not be used near a flame because of danger of fire.

6. Put oil rags and waste in the yellow covered safety can to keep from starting a fire.

7. In case of fire, turn off all electricity and gas in the lab. Remember that your safety should come first.

8. In case of a short circuit, shut off all power from main switch before putting out fire.

9. CO2 or dry powders are the only extinguishers to use on electrical fires. Liquid extinguishers should never be used on an electrical fire.

10. Flammable liquid fires should be smothered.

I have been shown and instructed on the personal, laboratory, and fire general safety precautions and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ______________________________________ Date: _____________________
SECTION III
MACHINE OPERATION SAFETY PRECAUTIONS AND INSTRUCTIONS

GENERAL MACHINE SAFETY:

1. Do not run any machine until you have been taught to run it safely.
2. Do not run any machine while the instructor is out of the lab.
3. Proper eye protection must be worn when operating any machine.
4. Make sure that all safety devices are mounted correctly and in proper operating order. Check with instructor if in doubt.
5. Use approved method of machining material or removing small pieces of scrap when there is a possibility of injuring the fingers.
6. Loose clothing and long hair are always dangerous and they must be kept at a safe distance away from power tools.
7. Keep rags away from all moving parts. Use a brush to remove chips or shavings.
8. Do not adjust or clean a machine when it is in operation. Turn the power off when changing parts of the machines.
9. Turn the machine off when you leave it. All machines must be allowed to come to a complete stop without the help of the operator unless a brake is provided.
10. Do not abuse the machines. Forcing material through the machine, bumping the machine, and using improper speeds are a few of the abuses to be avoided.
11. Make sure all cutting tools are sharp and in good condition before starting the cutting.
12. All material must be firmly held by the operator or properly clamped to the machine.
13. The operator must be properly positioned when operating all machines.
14. Check all material before using it to make sure it is safe to use. Check for knots, splits, dirt, burrs, nails, etc.
15. Machining small pieces of material and special set-ups must be approved by the instructor.
16. Keep the machine or work area clear of all unnecessary items when in use.
17. Make sure the machine comes to a complete stop before attempting to remove the work.
18. Do not talk to or interfere with the operator of any machine.
19. The operator should give his undivided attention to the operation of the machine and refrain from talking to anyone.
SECTION IV
HAND TOOL SAFETY PRECAUTIONS AND INSTRUCTIONS

Hand tools are the instruments necessary to master the job. Incorrect use of hand tools is the cause of many accidents. When working with tools, always follow the safety rules.

1. Never use a hardened hammer on machined, tempered, or hardened surfaces. Use a soft hammer such as rawhide, rubber, lead, copper, or plastic mallets.

2. Be sure tool handles are not split and are tightly fastened.

3. Be sure your hands are dry and free of oil when using tools.


5. Be sure the screwdriver blade is the right size and shape to keep it from slipping out of the screw slot.

6. Don’t hold work in the palm of the hand while using a screwdriver.

7. Hold chisel tightly to keep the tool from slipping.

8. Always use a screwdriver with a plastic or insulated handle for electrical work.

9. Files are very hard and brittle. Do not hit them against anything as small pieces may chip off and fly. Do not use files to pry with. Use only files with handles.

10. When a saw is not in use, make sure it is so placed that you or someone else will not brush against the teeth. It is best to hang up the saw in its proper place.

11. Hand saws jump when started wrong or are forced. Use the saw as you have been taught to keep from hurting yourself.

12. Hacksaw blades are hardened and pieces will fly if not used correctly, thus causing a cut or injury. Make 50 strokes per minute.

13. Use BOTH hands when using the hacksaw.

14. Always carry wood chisels and gouges with sharp point down.

15. In tight places, push the wrench with the palms of your hands and keep your fingers clear.

16. Never use a wrench as a hammer and never hammer on a wrench.

I have been shown and instructed on the proper and safe use of the hand tools and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: _______________________________ Date: ___________________
SECTION V
PORTABLE ELECTRIC TOOL SAFETY PRECAUTIONS AND INSTRUCTIONS

Safety precautions to observe when using portable electric tools include:

1. Do not drop any portable tool or place it in a position where it could be damaged.
2. Keep power cord and plug dry at all times. Make sure it has a ground wire and is in safe condition.
3. Use the portable tools for the job they were designed to do. Never play with any portable power tool.
4. Never use a power tool in such a way that you do not have a good grip on the handle. Only the so-called “pistol grip” handles are to be used with one hand.
5. Always unplug the machine before making any adjustments or changes in set-ups.
6. Always fasten the material in a safe manner when using portable hand tools.
7. Return all portable tools and accessories to their proper storage area.
8. Never turn loose of a machine or put it down until it comes to a complete stop.
9. Wear face shield or safety glasses (goggles, spectacles).

SABRE SAW

1. Place the base of the saw firmly on the stock before starting the cut.
2. Turn on the motor before the blade contacts the work.
3. Follow the procedures described for bandsaw operation (relief cuts, etc.)
4. Make certain the work is well supported and do not cut into the support being used.

JIG SAW

1. When using the jigsaw it is unsafe to cut cylindrical stock, unless properly clamped.
2. You must report any mechanical defects on the jigsaw to the instructor.
3. The hold-down foot must be adjusted to rest on the work.

I have been shown and instructed on the proper and safe use of the portable electric tools and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ________________________________ Date: ____________________________
SAFETY PRECAUTIONS AND INSTRUCTIONS
BAND SAW

The band saw is a most versatile machine. It has an endless blade traveling around two wheels. The band saw cuts so fast and so easily that the operator must constantly watch his/her fingers.

Safety precautions to observe when using the band saw include:

1. Do not operate the band saw until you have received complete safety and operational instructions and obtained permission from your instructor.

2. Before machining stock on the band saw, check to make sure it is free of nails or other foreign material.

3. Before starting the machine, adjust the sliding post so that the upper guard is no more than ¼ inch above the stock.

4. Plan sawing procedure so there may be a maximum forward feed with a minimum of backing out of cuts.

5. The surface of the material on the table must be flat and held firmly against it.

6. Round or cylindrical stock must not be cut on the band saw without extreme care.

7. Make sure the proper width saw is on the machine for your particular job.

8. Check to see that all guards are in place.

9. Make adjustments only when the machine is at a complete stop.

10. Ask your instructor to approve all special set-ups.

11. Ask for help when machining long stock, but remember that the helper only supports the stock … the operator is in control.

12. Make sure that no one but you is inside the operator’s zone.

13. Wear a face shield or safety glasses (goggles, spectacles).

14. Make sure the correct width saw is on the machine for your particular job.

15. Make sure the blade has the proper tension and that the teeth point towards the table.

16. Hold the material firmly.

17. Keep fingers a safe distance from the saw blade.

18. Feed the material into the machine at a moderate rate of speed.
Safety Precautions
Band Saw

19. Allow the blade to come to a full stop before removing any chips or short pieces.
20. Keep the saw blade from twisting or binding when cutting curves.
21. Sharp curves can only be cut with a narrow blade.
22. Make a series of relief cuts before trying to cut a sharp curve.
23. Never allow anyone to stand on the right hand side of the person using the saw. If the blade were to break it could fly out in that direction.
24. The saw must reach full speed before making the cut.
25. Allow the machine to come to a complete stop before backing the saw out of a long cut or removing scrap from the table.
26. Keep waste from accumulating on the saw table and under foot.
27. Step away immediately if the saw breaks or comes off. Shut off the power if possible without endangering self. Notify your instructor. DO NOT open the cover to the band saw wheels!
28. Turn off the power after using band saw (use the brake if provided) and stand by until the machine has stopped.
29. Clear away scraps of wood on the table only after the saw stops running.
30. Avoid backing out of a cut as this could pull the blade off the wheels. THINK AHEAD!

I have been shown and instructed on the proper and safe use of the band saw and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ______________________________________ Date: _____________________
The circular saw is one of the oldest known power machines used in woodworking. It is generally used more than any other machine in the woodworking lab. It is used for ripping, crosscutting and for cutting miters, dados, grooves, rabbets, coves and many other joints and operations.

Safety precautions to observe when using the circular/table saw include:

1. Do not operate the table saw until you have received complete safety and operational instructions and obtained permission from your instructor.

2. Be sure that all lumber is free from loose knots, nails, sand or paint.

3. Select and install the proper saw blade for ripping or crosscutting. Make sure the blade is sharp, free of any defects, and properly mounted.

4. DO NOT rip pieces shorter than 12” in length; DO NOT crosscut pieces shorter than 6” in length.

5. Make adjustments only when the machine is at a complete stop. Never attempt to stop or slow a blade by pressing stock against it.

6. Use the saw guard as much as possible. Only a few operations cannot be done with the guard in place.

7. Adjust the saw so that the top of the blade extends above the stock being machined by 1/8 to 1/4 of an inch.

8. See that all guards and other safety devices are in their proper position.

9. Ask your instructor to approve all special set-ups and dado heads.

10. Make sure the saw, dado head or molding head teeth and cutters point toward you as you stand on the operator’s side of the saw.


12. Always use a ripping fence for ripping and a miter gauge for crosscutting.

13. Fasten a clearance block to the ripping fence when cutting many pieces the same length to prevent a kickback.

14. Round stock should not be cut on the table saw without the permission of the instructor.

15. Be certain there is an adequate number of proper push sticks immediately available.

16. Make sure that no one but you is inside the operator’s zone.

17. Always stand behind and to the left side of the line of the table saw.

18. Wear a face shield or safety glasses.
Safety Precautions
Table / Circular Saw

19. Keep your fingers out of the path of the saw.

20. When ripping long stock, have someone assist you to “tail off” the stock. However, the person “tailing off” should never pull or tilt the stock, ONLY SUPPORT it. The operator must always have full control.

21. Concentrate on the machining operation. Avoid distractions and never look around while operating the saw. When the cutting operation is completed, stop the saw and move out of the operating zone before responding to any one trying to attract your attention.

22. Use an approved push stick when ripping pieces of stock 4” or less in width.

23. Allow the saw to come up to full speed before starting a cut.

24. Before ripping, make sure the fence is secure, locked and parallel to the slot in the table.

25. While ripping, be sure the stock is tight to the fence throughout the complete operation.

26. After ripping narrow stock, grip the fence and use it as a guide to return your hand to your side.

27. The sawing operation is not finished until the stock is completely past the saw blade and your hands return to your side.

28. Only rip boards that have had one edge jointed. Put the jointed edge on the fence.

29. Hold material firmly against the miter gauge when crosscutting. Keep fingers away from the line of cut.

30. Feed stock only as fast as the saw will freely cut.

31. Turn off the saw immediately if it sounds different.

32. Turn off the power after using the table saw and stand by until the machine has stopped.

33. Clear away all scraps of wood on the table only after the saw comes to a complete stop.

34. Reset the saw adjustments to a normal position after you have finished your cuts requiring a special set-up.

35. NEVER lower wood over the saw blade while it is in motion (without the approval and/or assistance of the instructor).

36. Before changing blades on the circular saw, unplug the machine or trip the power breaker for that machine at the main power panel. Test start button to assure the power is off.

I have been shown and instructed on the proper and safe use of the circular / table saw and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ______________________________________  Date: _____________________
SAFETY PRECAUTIONS AND INSTRUCTIONS
DRILLING & BORING MACHINES

Many drilling and boring operations are performed in cabinet and furniture construction. The term boring usually refers to cutting holes in wood, while the term drilling is usually associated with machining holes in metal. However, the two terms are used interchangeably in modern woodworking. The drilling and boring machines in the Bakersfield College lab consist of the drill press, single spindle horizontal boring machine and portable electric drill motors.

Safety precautions to observe when using the drilling and boring machines include:

1. All work must be held in the drill press so that it cannot come loose. Use a secured drill press vise whenever you can to keep the stock from turning.

2. Insert only round-shank drill bits in the three jaw chuck.

3. Change belt speeds only while the machine is stopped.

4. Always position the hole in the center of the table beneath the drill and or place a piece of wood beneath the work to prevent damage to the table.

5. Make sure the chuck key is removed immediately after use, as it will be thrown when power is turned on.

6. See that the speed of the drill press is correct for the size drill used.

7. If the piece of work in the drill press comes loose and is turned by the drill, be sure and wait until the drill can be turned off and it comes to a full stop before trying to free it. Do not try to stop work with your hands.

8. Easing up on the feed pressure as the drill goes through the hole will cut down the chance of an accident to you, the tool, and the work.

9. Take the drill out of the chuck or spindle when the job is finished. Hold on to the drill being taken out. Do not let it fall on the drill table.

10. Sheet metal should always be clamped and backed with wood.

11. Small pieces must be clamped securely before drilling or boring.

12. Loose sleeves on clothing and loose jewelry are dangerous while using drilling and boring machines.

13. Long hair must be bound while using drilling and boring machines. If hair is caught in a revolving chuck or bit, severe injury may result.

I have been shown and instructed on the proper and safe use of the drilling and boring machines and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ________________________________ Date: ____________________
SAFETY PRECAUTIONS AND INSTRUCTIONS
GRINDING & BUFFING MACHINES

Safety precautions to observe when using the grinding and buffing machines include:

1. The tool rest should be as close to the grinding wheel as possible; not over 1/8” away.
2. Rags or gloves may catch and pull the hand into the wheel. Use water to keep work cool.
3. Do not touch the moving grinding wheel.
4. Always hold the material against the buffing wheel in such a way that the wheel cannot catch on the edge of the material.
5. When buffing or applying buffing compound, all material should be held in front and below the center of the turning wheel.
6. Do not bump the grinding wheel as pieces may fly off at great speed.
7. Do not use a grinding wheel that is cracked or out of round.
8. Use a wheel dresser to keep the grinding wheel round.
9. Do not grind on the side of the grinding wheel. This may cause the wheel to break.
10. Do not press the work against the wheel hard enough to slow down the speed.
11. Do not put any material against the wheel when power has been turned off.
12. Special safety precautions must be taken when using the wire wheel.

I have been shown and instructed on the proper and safe use of the grinding and buffing machines and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ______________________________________ Date: _____________________
SAFETY PRECAUTIONS AND INSTRUCTIONS

JOINTER

The Jointer is one of the most useful machines in the woodworking lab. This machine is designed to take the place of the hand plane. When properly used, it will straighten the surface of a warped board, true edges of boards that are to be glued or fitted together, cut a rabbet detail, taper stock for a leg, and many other useful operations.

Safety precautions to observe when using the jointer include:

1. Do not operate the jointer until you have received complete safety and operational instructions.

2. The jointers in the Bakersfield College wood lab are to be used for new materials only.

3. Inspect material thoroughly before jointing, making sure there are no loose knots, cracks, or any foreign materials. Defects in the material may result in injury to the operator. Use clean wood ONLY.

4. The outfeed table has been pre-set by the instructor for correct alignment. DO NOT change this adjustment!

5. The infeed table must not be adjusted for a cut greater than 1/8”; unless approved by the instructor.

6. Adjustments to the jointer fence should be made only when the knives are at a complete stop.

7. Before operation, check adjustments with lock handles for tightness. Make sure the fence is tight before starting the machine.

8. The minimum length material to be jointed on the 6” jointer is 12”.

9. Trying to joint short pieces will result in injury. If you do not adhere to this rule you will find that often times the short material will catch the outfeed table and the material will be thrown out of your hand allowing your fingers to come in contact with the revolving cutters.

10. Wear a face shield or safety glasses.

11. Make sure that no one but you is inside the operator’s zone.

12. The safety guard must be in its proper place over the knives.

13. Use a push block when jointing a face or when jointing an edge on thin or narrow stock.

14. Hold stock firmly against the fence and the table while performing jointing operations.

15. While using the jointer, always stand to the left side of the machine.

16. When a push stick is not being used, always allow one or two fingers to ride on top of the material. This is a natural deterrent for your fingers to slip from the material into the cutterhead.
17. Keep your hands away from the revolving cutterhead.

18. Push the stock far enough beyond the knives so that the guard may spring back to cover the cutterhead.

19. DO NOT attempt to joint end grain on the jointer unless approved by the instructor.

20. When jointing long stock, make sure the outfeed end of the machine is clear enough not to interfere with the movement of the stock.

21. Ask your instructor to approve all setups involving stop-cuts, beveling, tapering, and rabbeting.

22. Always loosen the lock nut on the jointer when adjusting the infeed table and tighten before operating.

23. Turn off the power after using the jointer and stand by until the machine has come to a complete stop.

24. Always respect the jointer and use common sense. If you have doubts about the safe use or operation, or if you have questions about a particular setup, consult your instructor before using this machine.

I have been shown and instructed on the proper and safe use of the jointer and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ________________________________ Date: ________________
SAFETY PRECAUTIONS AND INSTRUCTIONS
SURFACER / PLANER

The purpose of the surfacer is to machine stock to a uniform thickness with a smooth surface. The surfacer/planer will not correct or straighten warped stock. Surfacers are made with either single or double cutterheads. The surfacer in the Bakersfield College woodworking lab has a cutterhead above the table only and will plane to a width of 24 inches.

Pre-Operation:

1. Safety goggles or safety glasses MUST be worn.

2. THICKNESS:
The thickness of lumber should be examined before you plane it. Lumber less than 10 mm can be planed by:
   - Ensure that an instructor is supervising.
   - Place the thin board on top of a thicker board (at least 19 mm thick) and
   - Run both boards through the planer together.
   - Stock that is thicker at one end than the other should be planed by inserting the thicker end into the planer first.

3. LENGTH:
   - Material must be at least 2 inches longer than the distance between the infeed and the outfeed rollers.
   - Lumber that is quite long must have adequate space at the outfeed end of the planer.
   - Be careful when planning short stock. Infeed rollers will sometimes cause short stock to quickly tilt up and then down. This can cause a pinch point for fingers between the table and the stock.

4. WIDTH:
   - Examine the width of the lumber. Most planers remove a maximum of 3 mm per pass. If a narrow piece of lumber is being planed, the maximum amount may be removed. A piece that is at the maximum width of the planer may cause the motor to overheat and the cutter to stall. If the motor does stall, follow lock out procedure (turn off the power switch) and lower the table prior to restarting the machine.

5. Check the board for loose knots, nails, staples, dirt, sand or other foreign objects that could come free during the planning process, harming you or the machine.

6. Ensure that the dust removal equipment is working properly before starting the planer.

7. Plane only clean lumber.

Safety precautions to observe when using the surfacer/planer include:

1. Do not operate the surfacer until you have received complete safety and operational instructions.

2. The surfacer in the Bakersfield College woodworking lab is to be used for new material only.

3. All stock to be run through the surfacer shall be free of dirt, glue, nails, loose knots, or any other foreign material which might cause harm to the machine or the operator.
Safety Precautions
Surfacer/Planer

4. Adjust the machine to cut no more than 1/16 inch from the thickest area of the stock.

5. Stock less than 18 inches long should not be surfaced on our surfacer. PLAN AHEAD !

6. Stock thinner than ¼ inch should not be surfaced without the instructor’s supervision.

7. Always stand to one side of the stock being machined, never directly behind it.

8. Never stoop down and look directly into the feed rolls.

9. Be especially careful of your fingers. Sometimes the board can be slapped against the infeed table; consequently, do not allow your fingers to be between the feed stock and the infeed table.

10. If the stock starts to twist as it goes through the surfacer, keep your hand away; your fingers could be pinched between the stock and the table sides while trying to straighten it.

11. If the machine does not seem to operate correctly or if a board becomes stuck under the cutter, turn the machine off, allow it to come to a complete stop and call the instructor.

12. Never reach under the guards into the cutterhead area.

13. The machine should reach full speed before attempting to surface any stock.

14. Always respect the surfacer and use common sense while using it. If you have any doubts about its safe operation consult your instructor before using the machine.

I have been shown and instructed on the proper and safe use of the surfacer/planer and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ______________________________________ Date: _____________________
SAFETY PRECAUTIONS AND INSTRUCTIONS
SHAPER

The shaper is used for grooving and shaping on straight and curved edges, producing moldings, glue-joint details, fluting, reeding, and almost limitless combinations of decorative cuts. However, it is a relatively dangerous machine because of the high speed, exposed cutters and the necessity of moving the material past these cutters with your hands in close proximity.

Safety precautions to observe when using the shaper include:

1. Whenever possible, cut on the underside of the stock. This allows the stock to cover most of the cutter and act as a guard.

2. When changing spindles or cutters, make sure the power for the machine is off by removing the power plug and testing the start button.

3. Make sure the spindle and cutters are installed correctly and securely.

4. Make sure the rotation of the spindle is correct for the particular cutterhead. If there is any doubt ask your instructor to check the setup.

5. Always position the outfeed fence so that it will support the stock that has passed the cutterhead.

6. Adjust the spindle for correct height and then lock into position. Rotate the spindle by hand to make sure it clears all guards and fences.

7. Always feed the stock against the rotation of the cutting edge, that is, feed the stock into the cutters in the direction opposite to cutter rotation.

8. Examine the stock carefully before shaping to make sure it is free of defects. Never cut through loose knots or stock that is cracked or split.

9. Hold stock down against the table and tight against the fence with your hands on top of the material at least one inch away from the revolving cutters.

10. Never shape a piece of stock shorter than 10 inches.

11. Remove all loose tools and articles from the table before any shaping operations.

12. When shaping curved stock, hold the stock firmly against the collar.

13. No adjustments are to be made to the shaper while it is in operation.
Safety Precautions
Shaper

14. Concentrate on the shaping operation. Avoid distractions and never look elsewhere while operating the shaper.

15. After stock has completely passed the cutterhead, be aware of the fact that the cutter is still rotating and under power. Respect the machine with as much attention after the machining operation as during the operation.

I have been shown and instructed on the proper and safe use of the surfacer/planer and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ______________________________________  Date: _____________________
The portable electric drill is a time-saver. This tool requires two hands for the starting operation; one to hold the drill and the other to hold the bit steady. Numerous attachments are made for this drill.

1. Obtain permission from your instructor before using the portable electric drill.
2. Select the proper drill bit.
3. Make sure the switch is in an “OFF” position.
4. Remove the chuck key immediately after using it.
5. See that a grounded wire is connected to the portable electric drill.
6. Keep drill, electric cord, and plug dry at all times.
7. Plug in the electric cord.
8. Hold the machine firmly.
9. Keep hands away from the revolving spindle and drill.
10. Apply straight and steady pressure on the drill.
11. Ease up on pressure just before drill begins to break through material.
12. Back drill out as soon as hole is drilled.
13. Turn off power and hold machine firmly until it comes to a dead stop – then rest the machine on its side.
14. Disconnect electric cord. Clean and return the machine to its designated place.

I have been shown and instructed on the proper and safe use of the portable electric drill and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ________________________________ Date: ___________________________
SAFETY PRECAUTIONS AND INSTRUCTIONS
PORTABLE ELECTRIC SAW

The portable electric saw is mainly utilized for on-site construction jobs or in circumstances when the operator may not have access to other stationary power equipment. The operator must treat the portable electric saw with the same respect as all other stationary, portable electric and/or hand tool equipment.

1. Keep both hands on the saw during the cutting operation.
2. Always stand to one side of the cutting line.
3. Before using the portable power saw, remove all jewelry and roll up your sleeves.
4. Before making any adjustments to the portable power saw, be sure the saw is disconnected from the power supply.
5. Before connecting the portable power saw to the power source, make certain the switch on the saw is in the OFF position.
6. Thin material should be supported on benches.
7. Make sure the blade has come to a complete stop before removing the saw from the work.
8. When sawing with the portable power saw, never reach underneath the material being cut.
9. After completing a cut, release the switch and apply the brake, or wait until the saw blade has stopped before setting it down.
10. Stock must be supported so that the kerf will not close and bind the blade.
11. Place the saw base on the stock with the blade clear before turning on the switch.

I have been shown and instructed on the proper and safe use of the portable electric saw and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ___________________________ Date: ______________________

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SAFETY PRECAUTIONS AND INSTRUCTIONS
RADIAL ARM SAW / SLIDING MITER SAW

The radial arm saw / sliding miter saw is a versatile machine. In this woodworking laboratory, however, it is used strictly for crosscutting to rough or net length.

Safety precautions to observe when using the radial arm saw include:

1. For all crosscutting operations, the stock must be held tightly against the table and guide fence. This prevents kickbacks, a major cause of saw accidents. Therefore, each piece of stock must be evaluated for warp and placed on the table to allow the section being cut to be tight to the table and tight to the fence.

2. Make sure the blade is sharp and properly mounted. It should be held securely with an arbor collar and nut.

3. Keep blade guards in position while operating the machine.

4. Make sure all clamps and locking handles are tight.

5. Before starting the radial arm saw / sliding miter saw, put one hand on the handle to insure that the saw is to the rear of the table. Keep saw in this position while pushing the start button.

6. Always return the saw to the rear of the table with your hand on the handle after making a crosscut. Do not rely on the return spring.

7. Before making any adjustments to the saw, make sure power is off and the blade has come to a complete stop.

8. Never allow any part of your hands to be in the danger area … the path of the saw blade.

9. This saw has a climb cut and tends to feed itself into the work; therefore, it is necessary to regulate the feed rate with your hand on the handle.

10. Remove small pieces of stock that are near the path of the saw blade with another longer piece of stock, being careful not to let your hands get into the danger area.

11. Keep the table clean and free of loose stock. Never allow any metal tools or objects to remain on the table.


13. Always respect the radial arm saw and use common sense while using it. If you have any doubts about its safe operation or particular set up, consult your instructor before using the machine.

I have been shown and instructed on the proper and safe use of the portable electric saw and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ____________________________ Date: _____________________
Routers are widely used for shaping surfaces and edges of stock, making dovetail and spline joints, cutting recesses (gains) for door hinges, inlay work and other intricate joints. The wide selection of router cutters available today make the portable router an extremely versatile tool. It can be used for freehand cutting and also with various guide templates. Routers are also incorporated into stationary equipment frames (i.e., the Multi-Router) which allows the operator to take advantage of an array of special set-ups and cuts.

Safety precautions to observe while using the portable router include:

1. Make sure the router is properly grounded using three wire cords and proper grounding receptacles.

2. Disconnect the plug from the power circuit when changing router cutters.

3. Make sure the power switch is in the “off” position and the machine is on its side before connecting the router to the power source.

4. Make sure stock is fastened securely with a vise or clamp and the operator has a firm grip of the router before turning on the power.

5. When using the router, always be aware of the revolving cutter before, during, and after all machining operations … especially during freehand routing operations.

6. Always move the router along the stock so that you are feeding stock opposite the rotation of the cutter.

7. Make adjustments only when electric cord is disconnected from power source.

8. The bit must be securely mounted in the chuck to a depth of at least ½ inch and the base must be tight.

9. Tighten all bits and cutters with proper wrenches.

10. Keep hands clear of revolving bits.

11. Turn off the power and rest the machine on its side when a desired cut has been finished.

12. Disconnect, clean and return the machine and its parts to the designated place.

I have been shown and instructed on the proper and safe use of the portable hand router and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ______________________________________ Date: _____________________
SAFETY PRECAUTIONS AND INSTRUCTIONS
SANDING MACHINES

Sanding machines provide an excellent way of shaping, smoothing and finishing wood. In the Bakersfield College wood lab these machines may include the combination belt and disk sander, spindle sander, stroke belt sander, portable belt sander, the random orbit portable sander, drum sander/surfacer, and others.

The oscillating and orbital sanders are light in weight and easy to control. They use a flat sheet of abrasive, moving it in short, rapid strokes. This machine is suitable for finish sanding.

The weight of the portable belt sander provides the necessary pressure on the belt; it is only necessary to maneuver the machine uniformly over the surface.

Safety precautions to observe while using sanding machines include:

1. Obtain permission from your instructor before using sanding machines.
2. Hold your work securely.
3. Be sure that the switch is in an off position and the machine is on its side before plugging in the electric cord on a portable sander.
4. Do not use excessive pressure on the contact between the machine and the stock.
5. If the sanding machine is equipped with a support table, make sure the stock is in a position that allows the movement of the sanding material to hold the stock to the support table.
6. Make adjustments only when the sander is at a complete stop. The portable electric sander cord should be disconnected.
7. Be certain the belt or sandpaper is correctly mounted.
8. Always check the belt or disc for breaks or tears.
9. Wear a face shield or safety glasses.
10. To prevent a fire hazard, DO NOT allow excessive sawdust to accumulate around the sanding machine.
11. Small or irregular-shaped pieces of wood should be held in a hand clamp or special jig or fixture.
12. Sanding machines can “eat up” your project quickly. Be careful using them not to remove too much material or to “dub off” details.
13. Sand on the downward motion side of the disc sander.
14. Feed the stock into the abrasive material at a moderate rate of speed and pressure.
Safety Precautions
Sanding Machines

15. When sanding the end grain of narrow pieces on the belt sander, always support the work against the table.

16. With belt sanders, always start the sander off the work and stop the sander on the work.

17. Turn off the power after using the sander and stand by until the machine has stopped.

18. Disconnect the electric cord of the portable sander and return the cleaned machine to the designated place.

19. A sanding machine is to be used by only one person at a time.

I have been shown and instructed on the proper and safe use of the sanding machines and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ___________________________ Date: _________________
The scroll saw resembles a power-driven coping saw. The short blade moves up and down, cutting only on the down stroke. The saw is designed especially for cutting fine curves and details in stock up to approximately an inch in thickness.

1. After passing the safety test and being checked off by the instructor, you may use the scroll saw.

2. Cut only stock with a flat surface on bottom. Never cut round stock.

3. Make adjustments only when machine is at a complete stop.

4. Make sure that the saw blade is the proper size for the job.

5. Check the blade for correct tension before starting the machine.

6. Adjust hold-down fingers so that they are on the work.

7. Turn the machine by hand to make sure all parts are clear.

8. Make sure that no one but you is inside the operator’s zone.

9. Select the correct machine speed depending on the type and thickness of the wood you are cutting.

10. Wear a face shield or safety glasses.

11. Hold the material firmly.

12. Feed the material into the machine at a moderate rate of speed.

13. Keep your fingers away from the saw.

14. Report any mechanical defects or a broken blade to your instructor.

15. Turn off the power after using the scroll saw and stand by until the machine has stopped.

16. Clear away all scraps of wood on the table only after the saw stops running.

I have been shown and instructed on the proper and safe use of the scroll saw and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ___________________________________________ Date: __________________________
Wood turning is the process of shaping stock into cylinders, disks, and other round and out-of-round forms. It is one of the oldest of the woodworking tools used today.

Safety precautions to observe when using the woodturning lathe include:

1. The operator must not wear loose clothing, jewelry, or unbound long hair while using the wood lathe.
2. All material must be carefully examined for checks, knots, or other defects that would cause it to break while turning.
3. Check all glue joints for soundness. A weak joint may come apart when revolving at high speeds.
4. Large stock should be roughed off before turning.
5. Rough stock must be turned by hand after being centered in the lathe to make sure it will clear the tool rest. A live center is preferred at the tailstock but if a dead center is used, oil it and lock the tailstock before turning on the power.
6. Run all stock at the lowest speed until it is rounded.
7. Hold turning tools firmly with both hands.
8. The lathe must be stopped before making any adjustments such as changing the position of the tool rest.
9. The tool rest must be kept within ¼ inch of the stock being turned.
10. Large diameter stock must be machined at lower speeds.
11. Face plate work must be securely fastened to the faceplate. Care must be taken when turning to avoid cutting too deep and striking any metal fastening devices.
12. Tools must be kept sharp for best results and to prevent kickback.
13. The lathe should coast to a stop after power is turned off. Never try to stop the rotation with your hands.
14. The tool rest must be removed when sanding or finishing on the lathe.
15. Goggles or approved face protection must be worn during all lathe work.

I have been shown and instructed on the proper and safe use of the wood lathe and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ____________________________ Date: ____________________
A hollow-chisel mortiser cuts the square or rectangular opening for one half of the mortise and tenon joint called the mortise.

Safety Precautions to observe when using the Hollow-Chisel Mortiser:

1. Always check before the machine is turned on to see that the downward travel of the chisel and the height of the table are adjusted for the proper clearance.
2. All stock must be securely held on the table with the clamping device for mortising.
3. The bit should always have 1/16” to 1/8” clearance from the hollow chisel.
4. If the bit squeaks, secure the machine and notify the instructor.
5. The operator should keep hand, fingers, jewelry, loose clothing and hair well clear of the chisel and rotating bit while the machine is in operation.
6. While making deep cuts, back out often to clean out the hole.
7. Never apply too much foot pressure when machining hardwoods.

I have been shown and instructed on the proper and safe use of the Hollow-Chisel Mortiser and have read and understand all of the facts mentioned above. I will comply with these safety instructions.

Signature: ______________________________________ Date: _____________________