A. All machines:
1. Check material for defects.
2. If necessary, straighten the edge of the board that will be against the fence.
3. Keep crowns toward fences.
4. Keep materials firmly against fences.
5. Always “Square” the end of the board that you will measure from.
6. Try to predict if a wood defect will be a safety issue.
7. Place defects to your best advantage in your project.
8. If machine is making a strange noise, shut it off and get the teacher.
9. Use “Stops” whenever possible, for safety and for cutting same length boards.
10. **Think ahead**, so that you will never have to cut short or tiny pieces on a power machine.
11. **Never** remove a guard, unless it is a special operation approved by the teacher. If a guard is removed, it must be put back on immediately after use.
12. Use *push sticks* whenever possible.
13. **Never** lay your hands flat on a board that you are holding or pushing through a machine.
14. Always *clean* the table or bed of machines with bench brushes, before and after use.
15. Always **sweep** under and around machines, every day.
16. It is impossible to remember every safety rule. Develop habits by following the rules, even if the machine is not running.
17. Work in a clear and clean area. Pick up around power tool before and after use.
18. Always use sharp blades.
19. If you are not sure, ask.
20. **Never** stand directly in front of a blade while it is starting.

B. Crosscutting Machines – Machines that cut across wood grains.
Includes: Radial Arm Saws, Chop Saws, Power Miter Saws, Compound Miter Saws, Panel Saws, Hand-held Circular Saws and Table Saws. Crosscutting on a Table Saw involves pushing the wood through the blade, instead of the blade through the wood.

**NOTE:** Some of these tools can be used for ripping (cutting wood in the direction of the wood grains.) Different rules apply to those operations.

1. **Never** try to rip a piece of wood when the machine is set to crosscut and get the teacher’s approval before adjusting the machine for ripping.
2. **Never** “force” a saw blade.
3. **Never** allow your hands to pass over the blade’s travel line.
4. **Never** cut more than one piece of at a time.
5. These machines should be checked for (in this order):
   a. Tilt (blade perpendicular to table)
   b. Travel (perpendicular to fence)
   c. Heeling (blade perpendicular to fence)
6. Before starting a machine, make sure that the machine is in its starting position.
7. Some machines tend to pull themselves through the material. Do not pull it through, let it through.
8. **Never** cross your arms. Learn either hand for pulling or holding.
9. **Avoid** using these machines for “Ripping” unless the teacher gives you special instructions.
10. **Always** push the machine back to its starting position before trying to remove material.
11. **Never** reach into the path of a blade to remove material.
12. On Chop Saws and Power Miter machines, always wait until the blade comes to a complete stop, before removing material.
13. If Cross Cutting is done on a table saw, a miter gauge is used. Never use a miter gauge and rip fence at the same time, unless a stopped guide is used.

C. **Ripping Saws – Machines that cut in the direction of the wood grains.**
Includes: Table Saws, Panel Saws, Hand-hel Circular Saws, and sometimes Radial Arm Saws.

**NOTE:** Setting up a Radial Arm Saw or Panel Saw for Ripping, can be VERY UNSAFE, and must be done only if the machine is set up by the teacher.

1. Use the guard, unless the instructor determines that what you are doing is safer without the guard.
2. The blade should never be raised more than 1/8" above the thickness of the material.
3. Use a push stick, whenever possible.
4. Use a clearance block or stop, if you need to use the rip fence and miter gauge at the same time.
5. Fence adjustments and other adjustments are to be made only, if the blade has come to a complete stop.
6. If a blade needs to be changed, the machine must be unplugged.
7. **Never** reach over a blade or pass material over a blade. Fingers are to stay completely away from the blade at all times. (push stick)
8. **NEVER, NEVER, NEVER EVER,** try to remove a scrap that is lying next to a turning blade.
9. Special set-ups and dado blades need to be inspected by the teacher.
10. If you need help with a large piece of wood or plywood, the teacher must be there to help you and your helper. (Communication Issues)
11. Cylindrical (round) materials or stock should never be cut without the teacher’s approval and supervision.
12. Plough cuts should **NOT** be made without teacher’s approval and supervision.
14. All Angle cuts must be inspected.
15. **Never** stand directly behind a blade.
16. Stay away from areas where power tools are being used.
17. Eye protection must be properly cleaned. Use water and a non-paper cloth to wipe.

D. **Planers**

1. Blades (knives) in Planers and Jointers are extremely hard and brittle. **Never** do anything that will break them because, they will shatter and send hundreds of razor-sharp pieces hurling through the air.
2. **No** small pieces of material will be sent through a Planer.
3. Nothing less than 1-foot long pieces will be sent through a Planer.
4. Have some scrap material ready to send behind your material, when using a Planer, especially if your material is less than 2’ feet long.
5. **Never** plane more than one piece of material per pass.
6. If two or more boards are of different thicknesses, set the machine for the thickest, run it through, and lower the thickness little by little, until all of the pieces are being planed. Then, continue until all of the boards are the desired thickness.
7. **Never** Plane plywood, or lumber across the grains.
8. Watch for dangerous wood defects.
9. **Never** allow your hands to pass over the machine’s bed at any time.
10. **Never** plane a board that is less than 5/16” thick.
11. **Never** look into the machine.
12. Unplug the machine before making any internal adjustments.
13. Be alert, listening—for noises that shouldn’t be there.
14. Changing blades on a Planer is extremely difficult, requiring measurements within 1/1000" of accuracy. Fastening blades into machine requires special knowledge and skill. Never attempt to change blades in this machine.

E. Jointers
1. Never face small or awkward pieces without instructor’s supervision.
2. Use proper push sticks for operation.
3. Inspect materials for defects.
4. Check machine’s adjustment with a scrap, before cutting good wood.
5. No small pieces of material will be sent through a Jointer.
6. Be sure that the blade guard is in good working condition.
7. Bevel and taper cuts are to be made with instructor supervising.
8. End grain, should never be jointed, without a holder and supervisor.
9. Never allow hands to pass over blade.
10. Changing blades on a Jointer is extremely difficult, requiring measurements within 1/1000" of accuracy. Fastening blades into machine requires special knowledge and skill. Never attempt to change blades in this machine.

F. Band Saws and Scroll Saws (cutting straight or irregular shapes)
1. These machines seem safe, but more accidents occur on machines that look safe.
2. If you use these machines for making straight rip or cross cuts, use fences or miter gauges in the same way you would use them on regular machines.
3. Adjust the blade guard and guide so that no more than ¼” of blade is exposed.
4. Inspect tooth clearance so that the teeth do not get hit by guides while blade is traveling.
5. Select a blade, according to the radius of your cut and thickness of your material. (Demonstrate)
6. When a blade is changed, store the old one immediately, and properly.
7. Make sure blades are installed with teeth pointed down.
9. Make escape cuts whenever possible.
10. Make sure material is not going to hit the “throat” of the machine, before starting a cut. If the band saw won’t do it, the scroll saw might.
11. If you must back out of a cut, stop the machine first.
12. Do not cut cylinders.
13. If a blade breaks, shut off the machine immediately.
14. If you hear a clicking noise, the blade might be breaking. Get the teacher.
15. As with most machines, keep your hands at least 6” FROM THE BLADE.
16. Before making blade adjustments, unplug the machine.
17. Never run a machine unless all of its parts and covers are in place.

G. Sanding Machines
1. Know how to choose the right paper grit.
2. Know how to cut paper for machine.
3. Know how to choose the right machine.
4. Install belts so that the arrow inside the belt is in direction it travels.
5. Do not press machine against wood. Let it do the sanding.
6. Do not press materials against the machine. Let it do the sanding.
7. Always use a stop with a hand-held belt or disc sander.
8. Always sand in the direction of the wood grains.
9. Never hold a sander on material or material against a sander, in the same place. Move it around to wear the sand paper evenly.
10. Disk Sander—Use only the side of disc that turns toward the table.
11. Belt and disk sanding is a last resort.
12. Keep fingers away from discs and belts.
13. As with most machines, no loose clothing.
14. Don't attempt to sand small materials. Use a push stick or special holder.
15. Sand end grains with a standing block.
16. Keep all guards in place.
17. If a right angle must be maintained on your material, use a miter gauge on disc or belt sanding machines.

H. Drill Press
1. Never attempt to use an auger bit on a drill press or hand drill.
2. Always have your work clamped in place or secure.
3. Wear a shop hat or tie up long hair.
4. Have teacher lock up dangling jewelry.
5. Hold material with your left hand.
6. Be sure to remove the chuck key, and put it in its place before starting.
7. Be sure to remove and store bits and keys when finished.
8. Know your bits and think ahead before drill in stages.
9. Clear the bed of the machine so only your work is there.
10. Only use sharp bits.
11. Use a center punch and start with smaller bits to pilot larger ones.
12. Do not let a bit get hot.
13. On deep cuts, back out frequently to clear shavings.
14. Use slow speed settings on hard materials.
15. If hole doesn’t drill easily—get teacher.
16. If shaping is done, follow shaper and router safety rules.

I. Shaper and Router Safety
1. Shaping should only be done with the instructor’s supervision.
2. Un-used portion of a blade or knife should be hidden under the machine or covered by material.
3. Be sure all guides and fences are in place.
4. Use holding jigs and push sticks whenever possible.
5. Use backup material to prevent tear-out, especially with end grains.
6. Be sure bits and spindles are secure and going in the right direction.
7. Routers are moved left to right as you face the work.
8. Never run a board through the wrong direction.
9. As with all power tools, never lay your lands flat on the material.
10. Use feather boards and hold-downs whenever possible.
11. Do end grains first, whenever possible.
12. If a collar guide is used, back it up with a fence whenever possible.
13. Never reach over the blade with your hands.
14. Think through the operation before you do it.
15. If using a router, treat it like a loaded gun. Be aware of people around you.
16. Never go near a person who is using a router or shaper.
J. **Lathes and Turning Tools**
1. Always set the machine to a slow speed, **before** mounting the material, especially when turning thick material.
2. Sharpen tools while you are using them, **not** when you are done.
3. Keep tool rests as close to the work as possible.
4. Long pieces need very little tool pressure. **If** tool pressure is needed, the tool is dull.
5. Check for defects in your material.
6. Remove watches and jewelry and don’t wear loose clothing. Tie hair.
7. If you are using glued-up material, make sure that it was glued properly and clamped for at least 24 hours.
8. Make sure that all connections are locked in place before starting.
9. Hold tools firmly with both hands.
10. **Don’t** let tool “ride” on the material. Feed it, using one hand as a guide.
11. **Never** use calipers or dividers while the machine is running.
12. Drilling must be approved by instructor. **Never** start with a long bit.
13. Face Plate work must be approved by instructor.
14. A gouge is **never** used in face plate work.
15. **Never** allow lather tool to get hot.
16. Before doing a sanding or polishing operation, remove tool rests.
17. While doing sanding or polishing, you should **never** wrap a cloth or sanding strip around your finders or hands.

K. **Grinding**
1. As with all power tools, wear eye protections.
2. Never touch your face around your eyes after grinding.
3. Tool rest must be as close to work as possible.
4. **Never** remove a tool rest.
5. Check stone for damage, before putting it in the machine.
6. **Never** stand directly in front of a grinder when it is starting.
7. **Never** let your material ride a grindstone. Feed it with one hand guiding it to the stone.
8. Maintain the shape of the stone as you grind. **If** the stone gets out of shape, use a grindstone dressing wheel to re-shape it.
9. Grind only on the face of the stone, **never** the side of the stone, unless it is a stone made for that purpose.
10. If the grinder is being used to touch up a sharp tool, **never** let the tool get hot.