General Laboratory Safety

1. Never leave power equipment “running” while unattended.

2. Know the location and use of all fire equipment in the laboratory.

3. Pay attention to what you are doing at all times.

4. Avoid loud talking, shouting, and other distracting behaviors in the classroom and laboratory.

5. Do not run in the laboratory.

6. Wear proper clothing in the mechanics laboratory.
   a. No loose clothing, loose jewelry, or unsecured long hair.
   b. No open heel or open toe shoes.
   c. Eye protection is required at all times.
   d. Special eye, face, or skin protection is required when performing certain tasks.

7. Wear safety glasses or goggles at all times while in the mechanics laboratory and in other areas specified by the instructor. Additional eye and face protection may be required when operating certain tools.

8. Use guards and safety devices at all times.

9. Turn off power equipment immediately after use.

10. Operate power equipment only on a one student at a time basis.

11. Check power equipment for safety before putting it into operation.

12. Avoid carelessness and/or “horseplay” which will not be tolerated.

13. Notify the instructor in case of accident, injury, fire, defective equipment or tools, or any prevailing safety hazard.

14. Use only those tools or machines in which you have completed safety instruction and passed a written test to become certified.

15. Avoid laying tools or materials in walkways.

16. Be sure that you are familiar with all controls before using power equipment.

17. Do not leave the laboratory or work area unless the instructor gives you permission.

Hand Tools

1. Never cut toward yourself unless the tool is specifically designed for that type of cutting.

2. Use tools of the proper size for the job.

3. Do not handle tools in a careless manner.

4. Use only those files and rasps that are equipped with handles.

5. Use the proper tool for the job and use it in the correct manner. Example: Never use a wrench as a hammer.

6. Keep tools clean for safety reasons and to extend tool life.

7. Handle sharp and pointed tools with extreme caution.

8. Secure work in a vise or clamp when sawing, welding, or other times when needed.

9. Do not endanger other persons or co-workers in any way. You are responsible for your actions.

10. Report all broken tools or items of equipment to the instructor immediately.

11. Return all tools or other work items to the proper storage location when the job is completed.

Portable Electric Drill

1. Properly secure drill bits in the chuck of the portable drill.
2. Remove the chuck key from the chuck before using the drill.
3. The portable electric drill should be used only on those jobs that cannot be completed on the drill press.
4. The drill should not be placed on the bench or floor until it has stopped turning completely.
5. Always set the portable drill on the workbench so as not to damage the drill bit.
6. Never use extreme force when operating the portable electric drill.
7. Do not use the electric drill, or any electric tool, in and around wet areas.
8. Do not use electric drills around flammable materials.

Portable Electric Sanders – Belt and Orbital

1. Install sanding belts properly and securely. Unplug the sander before installing new sandpaper or sanding belts.
2. Always secure the material being sanded so as to avoid damage to the project or injury to yourself.
3. Properly ground the cords to avoid electrical shock.
4. Keep the power cord away from the moving belt.
5. Do not lay the sander down after you have finished using it while the belt is still moving.
6. Do not apply the sander to the work until the sander is at operating speed.
7. Always remove the sander from the work before stopping the motor.
8. Do not apply any extra pressure to the sander. This causes the sander to overheat.
9. Never touch the belt or sandpaper while it is moving.

Grinder Safety

1. Check grinding wheels for cracks, chips and balance before grinding.
2. Make certain that the tool rest is not more than 1/8” from the wheel.
3. Do not grind on the side of the wheel.
4. Hold small pieces of metal with vise grip pliers.
5. Hold all stock firmly against the tool rest while grinding.
6. Always wear a face shield and safety glasses when grinding.
7. Avoid standing directly in line with the grinding wheel while it is in motion.
8. Properly cool metal during and after grinding to prevent from destroying the temper.
9. Use caution when wearing gloves while using the grinder.
10. Be sure all guards and shields on the grinder are in place.
11. Never touch a moving grinder wheel with your hand.

Drill Press

1. Always use a sharp drill bit.
2. Use a lubricant or cooling medium when drilling metal.
3. Be sure you have proper type drill and that it is properly centered and secured in the press before starting the drill press.
4. Secure loose clothing and long hair, remove rags, unnecessary tools, and other materials on the press table before starting the drill press.
5. Always operate the drill press at proper speed for the material.
6. The feed of the drill should be enough to keep it cutting at its maximum capacity.
7. Never look away from your work while in the process of drilling.
8. Properly secure all stock to the drill press table using a vise or clamps.
9. Remove the chuck key and/or drift key from the chuck before operating the drill press.
10. Remove drill bit from chuck after use.

Band Saw

1. Keep all guards in place.
2. Adjust the blade guards to within 1/8 to 1/4" of the stock.
3. Maintain the stock flat on the table.
4. Never cut round stock on the band saw.
5. Concentrate your attention on the job at hand.
6. Never leave the machine operating while unattended.
7. Keep the work area clean.
8. If the blade comes out of the guides or breaks, stop the machine instantly by turning off the power.
9. Do not reach across the saw line.
10. Never back material out of a cut until power has been turned off and the motion of the blade has stopped.
11. Always use a push stick when sawing small stock.
12. Do not hold the stock in line with the saw blade.
13. Keep your hands and fingers several inches from the side of the blade.
14. Use ‘relief cuts’ on tight curves to avoid breaking the blade.

Table Saw

1. Keep guards in place at all times.
2. Adjust the blade so that it is ¼ inch above the wood being cut. As a rule, do not expose more than three teeth above the wood.
3. Use a push stick while ripping narrow pieces of wood.
4. Do not make any adjustments while the blade is in motion.
5. Use caution to keep hands and fingers away from the saw blade.
6. Do special set-ups only with the instructor's assistance.
7. Never brush away material from the saw table with the hand. Wait until the blade stops and use a piece of scrap wood.
8. Always inspect material for nails, screws, and other hardware.
9. When taking long material from the saw, do not pull until signaled to do so by the operator.
10. Do not attempt to cut round stock on the saw table.
11. Never leave the saw operating while unattended.
12. Never stand in line with the saw blade while it is in motion.
13. Always use a miter gauge when crosscutting.
14. Do not use both the miter gauge and the rip fence at the same time. The stock could bind and kick back on the operator.