

**University of Washington**  
**Mechanical Engineering Machine Shop**  
**GENERAL SHOP SAFETY INSTRUCTIONS**

1. Eye protection in the form of safety glasses, face shields, or goggles is **required** in this area.
2. All machinery, equipment, processes and material is off limits until you have been authorized by Shop personnel. **Permission is required** for the use of each individual machine in the shop, **every time you use the shop.**
3. All injuries or accidents must be reported immediately to the Shop Supervisor. Accident / incident reports should be filed in a timely fashion.
4. If you are in doubt as to a proper or safe procedure, stop work and ask for guidance.
5. Report unsafe or hazardous conditions wherever noted. Correct them if possible.
6. It is standard safety procedure to work in conjunction with another person at all times. If you are injured, you may be unable to call for help if working alone. **NEVER WORK ALONE IN THE SHOP!**
7. Be thoroughly knowledgeable concerning the equipment you are using **before** you turn it on. Read and understand specific safety and procedural instructions for each different piece of equipment. Know where primary and secondary power cutoff switches are located, and how to use them.
8. Have your setup checked by a qualified person **before turning on the machine.**
9. Open-toed shoes (sandals, etc.) are not allowed. **Do not** wear loose or torn clothing, neckties, or necklaces. Long hair can easily be caught in drill presses, lathes, milling machines or other machines. Tie back hair or wear a cap. Prevent clothing from being caught in moving machinery.
10. Rings, watches, bracelets, and necklaces should be **removed** before working in the Shop area. These items are easily caught in moving machinery, and may constitute an electrical shock hazard.
11. Use tools for intended purpose only, i.e. do not use screwdrivers as chisels or pry bars, wrenches as hammers, etc.
12. Inspect tools before using. A tool that is dull or in disrepair may not do a proper job and may cause operator harm due to excessive forces required to perform the same work. Examples include dull or chipped edges on cutting tools, drills, or saws; improperly ground screwdrivers or chisels; loose heads on hammers; worn wrenches, etc. **DO NOT** grind your own tools, unless you have been trained to do so.
13. Do not use fingers or hands to remove chips from moving or stationary machines. Use a brush to remove chips and dispose of them properly.
14. Never direct a stream of compressed air at yourself or others.
15. Never adjust a moving or rotating machine unless motion is necessary to make adjustment (i.e., a drill press that must be speed adjusted while moving – check individual machine requirements). Always allow machine to come to a **complete** standstill before making adjustments or repairs.

## University of Washington Mechanical Engineering Machine Shop

16. Approach all powered machinery and equipment as though it is “turned on.” **Never** leave a machine running while unattended. Some machines are nearly silent when running.
17. Do not attempt to slow down or stop rotating or moving equipment with hands or tools.
18. Remove all non-essential tools, tooling, or material from machine surface prior to turning on the machine. Vibration may cause these items to fall into moving or rotating equipment.
19. Machined metal, sheared metal, rough castings, etc. can have very sharp and dangerous edges. Always handle with caution and use gloves if possible. However, **do not** use gloves around rotating or moving machinery. Nitrile gloves are available for people with sensitive skin.
20. Always clamp or secure work piece properly so that it will not be “thrown” by the machine. Sheet metal and thin parts can ride up flutes, rotate at the rpm of the machine and frequently be “thrown”. This is most commonly an issue with drill presses, and mills.
21. Clean tapers and make sure they are free of chips before inserting in tailstocks, tapered spindles, etc.
22. Never leave chuck keys in lathe or drill chucks. **Failure to do so may get you banned from the shop.**
23. Welding, cutting, brazing, and related processes can produce toxic fumes, burns, fires, explosions, and electrical shocks. Take appropriate precautions to protect yourself and others in the Shops.
24. Use appropriate respiratory protection when working with dusts, mists, fumes or vapors.
25. Use only flint igniters for lighting torches. **Do not** use butane lighters, which can explode.
26. Use **extreme caution** when working around hot metals in welding areas. Hot metals can exhibit little or no visible indication of being hot.
27. Never use a file without a handle installed. Handles are available in their own separate drawer.
28. **Concentrate** on what you are doing and do not talk or be distracted while operating equipment.
29. Do not bring food or drinks into any laboratory or Shop spaces. Spilled drinks constitute electrical hazards and can damage expensive equipment.
30. Use proper techniques when lifting, moving, or carrying loads. Obtain assistance to distribute loads and avoid strains. Use carts to move heavy vices or work pieces.
31. Watch for tripping hazards and do not place material or objects in thoroughfares or passageways.
32. Know the location of fire extinguishers, fire exits and first aid kits.
33. Be aware of emergency procedures such as: Telephone – Dial 9-911 (Police, Fire, Medical)