

SparQ Studios Safety

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SparQ Policies

1. Members must clean up after themselves before leaving the space.
2. Members must be trained before using any equipment.
3. Always wear required personal protective equipment (PPE).
4. Performing modifications such as cutting, drilling or sanding on carbon fibre is prohibited.
5. Notify the makerspace director before bringing large material into the space.
6. Request permission of the makerspace director before bringing chemicals into the space.
7. No food or drink allowed in the space.
8. No animals allowed in the space.
9. No working unsupervised.
10. 3D Printing:
 - a. Replicator, FlashForge Dreamer, Wanhao Duplicator are first come, first served
 - b. Ultimakers require attending the 3D printing workshop.
 - c. Must use own filament and get permission before prints longer than 10 hours.

Makerspace Infractions

Safety and order are of primary importance at the makerspace, as a result, any infraction of the following policies may result in the removal of membership from SparQ at the discretion of the Makerspace Director or any of the DDQIC staff:

- Failure to pay for membership.
- Multiple failures to use PPE when necessary.
- Multiple failures to clean up after themselves.
- Hostile or aggressive behavior.
- Failure to store team's items/materials in the proper designated storage space.
- Using chemicals without prior permission from the Makerspace Director.
- Failure to adhere to Safety Policies and Procedures

Safety Information

All members must go through the entire training process before being able to be in the space. All users must understand the risks of all machines in the space, even if they do not intend to use them.

Emergencies

Information

- **Call 613-533-6111.** This number should always be printed on a wall.
- Queen's emergency booklet [link](#). Also available in cupboard.
- First aid kit in bottom of cupboard under the green first aid sign.
- Evacuate out of SparQ, and through the South Union Street doors.
 - o Alternate route: go North past SparQ, then exit to the East doors.

Fire

- Fire alarm located at South Union Street doors.
- Fire extinguisher:
 - o 1 Class ABC Dry Chemical Extinguisher (small). Puts out solid fires, flammable liquids and electrical fires.
 - o 1 CO2 C Extinguisher (large). Puts out electrical fires without damaging electrical equipment as much.
 - o Do not attempt to extinguish fire if out of control.
- Sprinklers trigger at 63° C.

Injuries

- Notify director or supervisor right away.
- Do not move injured person unless you have to.

General Safety

Personal Protective Equipment (PPE)

- Glasses
 - o Anytime anyone in the space is using a machine that creates dust.
- Dust mask
 - o If woodworking for a while.
- Ear protection
 - o When using any saw or sander.
 - o Others in the space must equip after 30min of sawing/powered sanding.
- Gloves
 - o When carrying scrap material.
 - o **ABSOLUTELY NO GLOVES WHEN USING STATIONARY/TABLETOP WOODWORKING OR METALWORKING EQUIPMENT.**

Clothing

- At all times:
 - o Footwear must be closed toe.

- While using equipment:
 - o Long hair must be tied back.
 - o Jewelry must be put away.
 - o No loose clothing.

Food and Drink

- No food or drink.

Unsafe Conditions

- Notify the director or supervisor if you see unsafe conditions.
- This includes:
 - o Messy workstation
 - o Hostile/aggressive behaviour
 - o Neglecting personal protective equipment (PPE)

Machine Specific Safety

Remember: if you do not know something, ask about it.

Every machine should have a safety card next to it. Always read the card before using the machine. If the card is not there for a machine, notify a supervisor.

Every stationary machine will have a red lockout that prevents the machine being plugged in. Every handheld power tool is in a locked bucket. This is for safety. If you need to use a machine or power tool, ask a supervisor, they have the keys. If a tool is left out, or a machine is not locked out, let a supervisor know.

CNC Router

- Lockout this machine when not in use.
- Always use eye and ear protection.
- Fasten/Clamp workpiece before operating.
- Never leave while it is running.
- Press spacebar at any time to emergency stop.

Laser Cutter

- Lockout this machine when not in use.
- Turn on the water cooler and fume extractor.
- Plug in air pump.
- Never leave the lid open.
- Never look at the laser.
- Never leave while it is running.
- No cutting PVC, Vinyl, or unknown materials.

Drill Press

- Lockout this machine when not in use.
- Always use eye and ear protection.
- Ensure switched off before plugging in.

- Clear shavings regularly.
- Bit gets hot. Let bit cool between drills.
- Ensure chuck tightened and keys out.
- Do not adjust speed/bit until drill stopped and off.

Lathe

- Lockout this machine when not in use.
- Always use eye and ear protection.
- Always use the guard.
- Ensure switched off before plugging in.
- Disconnect power before leaving or adjusting.

Belt and Disc Sander

- Lockout this machine when not in use.
- Always use eye and ear protection.
- Ensure switched off before plugging in.
- Make sure the belt tracks properly before using.
- Sand on the downside of the disc.
- Do not use wood with adhesives in it.
- Use a push block for thin pieces.
- If **METALWORKING**: ask supervisor first.

Band Saw

- Lockout this machine when not in use.
- Always use eye and ear protection.
- Ensure switched off before plugging in.
- DO NOT change the blade, ask for help.
- 62" blades only on this band saw.
- Use safety fence whenever possible.
- Use push stick to feed material.

Desktop Planer

- No boards shorter than 12"
- No boards wider than the width of the shoot
- No boards taller than 6"
- Plane off 1/6th of an inch at a time at most
- Do not stand in front or behind the shoot while planing

Scroll Saw

- Lockout this machine when not in use.
- Always use eye and ear protection.
- Ensure switched off before plugging in.
- DO NOT change the blade, ask for help.
- Keep hands clear. Do not reach behind/around the blade.
- Let blade reach full speed before cutting.
- Disconnect power before leaving or adjusting.

Mitre Saw

- Lockout this machine when not in use.
- Always use eye and ear protection.
- Keep one hand on the trigger, other pressing piece into the fence.
- Use wood only.
- Do not reach behind/around the blade.
- Let blade reach full speed before cutting.
- Let blade stop completely before lifting.
- Do not cut pieces smaller than 20cm (8in).

Bench Grinder

- **Metalworking Tool Only:** ask supervisor before using.
- Lockout this machine when not in use.
- Always use eye and ear protection.
- Keep hands clear of wheels.
- Do not grind on side of wheel.
- Gradually apply pressure, never be abrupt.
- Ensure wheels properly mounted.

Chop Saw

- **Metalworking Tool Only:** ask supervisor before using.
- Lockout this machine when not in use.
- Always use eye and ear protection.
- Fasten/Clamp workpiece before operating.
- Keep hands clear. Do not reach behind/around the blade.
- Let blade reach full speed before cutting.
- Let blade stop completely before lifting.
- Do not cut pieces smaller than 20cm (8in).

Angle Grinder

- **Metalworking Tool Only:** ask supervisor before using.
- Always use eye and ear protection.
- Fasten/Clamp workpiece before operating.
- Ensure switched off before plugging in.
- Use both hands on the tool when operating.
- Do not turn off while disc touching workpiece.
- Unplug when changing/adjusting disc.
- Cut an angle or the grinder will kick back.

Circular Saw

- Always use eye and ear protection.
- Fasten/Clamp workpiece before operating.
- Keep hands clear. Do not reach behind/around the blade.
- Let blade reach full speed before cutting.
- Use both hands on the tool when operating.
- Disconnect power before leaving or adjusting.

Jigsaw

- Always use eye and ear protection.
- Fasten/Clamp workpiece before operating.
- Keep hands clear. Do not reach behind/around the blade.
- Let blade reach full speed before cutting.
- Blade gets hot.
- Use both hands on the tool when operating.
- Disconnect power before leaving or adjusting.
- Keep your body to the side of the blade's line.

Portable Router

- Always use eye and ear protection.
- Fasten/Clamp workpiece before operating.
- Keep hands clear. Do not reach behind/around the piece.
- Use both hands on the tool when operating.
- Disconnect power before leaving or adjusting.
- Ensure bit at least 1/2" into chuck.

Power Drill

- Always use eye and ear protection.
- Fasten/Clamp workpiece before operating.
- Keep hands clear. Do not reach behind/around the piece.
- Drill a pilot hole before drilling larger ones.
- Use both hands on the tool when operating.

Rotary Tool

- Always use eye and ear protection.
- Fasten/Clamp workpiece before operating.
- Ensure switched off before plugging in.
- Keep hands clear. Do not reach behind/around the piece.
- Bit gets hot.
- Use both hands on the tool when operating.
- Ensure right size collet before turning on the tool.
- Never lay workpiece on hard surface: can cause tool to jump.

Sheet Sander

- Always use eye and ear protection.
- Fasten/Clamp workpiece before operating.
- Ensure switched off before plugging in.
- Use both hands on the tool when operating.
- Disconnect power before leaving or adjusting.

Further Information

Any further questions, email the makerspace director at:
sparq.studios@queensu.ca