RETIRED Workshop Wizard Weekly Cleaning and Maintenance

Elings 3430 Lab Maintenance & Cleaning Manual

Chores:

1. *Check and replenish paper towels in dispensers*

- Paper towels are stocked in brown paper packages on the shelves along the wall by the entrance.
- There are 2 paper towel dispensers in the lab uFL and 3 in IW, just turn the key (usually located on top of the dispenser) to check how much there are.

2. *Check and replenish gloves*

- Check if any glove boxes are about to run out; there are 2 glove locations in uFL and 3 in IW.
- If they are, open up the next one on top of the stack and add a new box of gloves to the bottom of the stack. Insure there are always 2 extra boxes in the main glove location located by the lab entrance.
- Make sure there are both latex gloves to use.
- Gloves are stocked on the shelves along the wall by the entrance, as well as above the vacuum furnace in uFL, and at the entrance and by each sink in IW.

3. *Tidy up bench spaces*

- Properly dispose of sharps and put away tools/supplies.
- Ensure razor blades are located on designated magnets and not on lab benches.

4. *Sweep and mop*

- Walkways and under benches.
- Start at the corner of the lab and move in a zig-zag direction around the lab to make sure you don't get trapped.
- Dirty water poured in the sink
- Use the general maintenance cart located in the hallway outside the lab. The cleaner is stored in the cabinet under the sink.
- **Rule of thumb:** Best to do in the mornings or weekends to avoid congestion in the lab.

5. *Check and replenish hazardous waste/waste labels*

1. Empty solvent bottles should not be rinsed. Make sure to cross out the labels with a Sharpie and have a waste solvent label pre tagged.
2. If waste bin is HALF full, contact EH&S to schedule a waste pickup

- **Note**: The hazardous waste tub is the grey tub located underneath the sink.

6. *Check sharps containers*

- If full, tape off the top and place in the hazardous waste bin.
- Usually will consider full when you can't put something else in the container without getting cut.

7. *Check glass waste bin*

- If full, seal and tape off the top.
- Replace with new bin.
- To take out the glass waste, there are rolling trash bins with red tops behind Elings Hall. Ensure that two people take out the glass waste, and that you hold the bins from the bottom.

8. *Make sure all cabinets are locked and lockboxes are locked and closed*

- If a user has left it unlocked, make sure to lock it.

9. *Check and replenish Kim wipes at every station*

- Kim wipes are stocked on the shelves along the wall by the entrance.

10. *Refill solvent squirt bottles in fume hood*

- Fume hood should have 1-3 bottles of IPA and Acetone, and 1-2 bottles of Ethanol.
- Large jugs should be located under the hood in the cabinet.
- New jugs in the cabinet labeled “extra solvents.”
- Wear gloves and lab coat; do all refilling in the fume hood.
- Keep empty solvent bottles as waste bottles.
- **NOTE:** Acetone will drip when refilled due to pressure differences. So point away from yourself.

11. *Monitor the hazardous waste jugs*

- Place in the hazardous waste bin if needed.
- Check waste levels in the containers.
- Generally, move to pickup bin if the hazardous waste jug has not been replaced for about 9 months or if it is over 75% full.

12. *Top off the Sonicator with DI water*

13. *Replace the paper towels in the spin coaters if needed*

- Paper towels will have oil streaks if the spinner has been used.
- Usually use 3 paper towels at the bottom and top of the spin coater.

14. *Top off cutting fluid in diamond cutter*

- The blue fluid by the CNC drill.

15. *Restart the Objet Printer*

- **IN THIS ORDER:**
- Turn computer and Objet off. Wait 10 seconds
- Turn Objet on (use mirror to find power switch in the back).
- Turn the computer on.
- Open remote desktop.
- Open Objet application on remote desktop.
- Open Object Studio software on the main desktop.

16. *Replace empty resin and waste containers in the printer*

- Check software. If the resin level is red or has an hourglass, it cannot be put back in once taken out. Avoid wasting resin.
- Restock spare materials in the grey bin under the printer.
- Print new labels if necessary.

17. *Clean the pressure washing station*

- Make sure water is off (both levers should be down).
- Check the yellow gloves and replace if torn.

18. *Restock Thinky Mix Uline jars*

- Stored below the workbench and along the storage wall of the lab.

19. *Replace dirty bench liners*

- Remove, wipe the area, and place a new one shiny side down.
- Stored under the workbench near gloves.

20. *Turn off Olympus microscope*

21. *Turn off Keyence light*

- Power button.

22. *Refill CNC drill squirt bottle*

- Use blue coolant.
- Check the level in the jug and refill if necessary.
- Undiluted coolant is underneath the sink. Mix the cool according to the ratio written on the bottle.

23. *Clean the laser cutter*

- Take out the (layer with a bunch of hexagons) and vacuum small bits from the bottom.

24. *Clean laser cutter lens*

- Tools in the yellow bin above the bench.
- Place bubble wrap under the laser (in case of the lens drops)
- Unscrew the cap
- Use 1 drop of cleaner and a lint-free cloth to polish both sides of the lens.
- Replace the lens, the convex side should be facing down. Do not overtighten.
- **NOTE:** The convex side of the lens will have a more prominent (relative to the concave side) dot in the center.
- The grey knob on the laser will release the mirror for cleaning if necessary.

Elings 2442 Maintenance & Cleaning Manual

1. *Sweep, mop, and vacuum the lab*

- The broom and dustpan are located in the Innovation Workshop.

- The mop is located upstairs in uFl and the cleaning fluid is under the sink near the door.
- The shop-vac should be emptied weekly and the batteries replaced as needed

2. *Check and replenish paper towels*

- There are paper towel dispensers above every sink.
- Extra paper towels can be found in uFl.

3. *Check and replenish gloves*

- There are three locations to check for gloves: by the front door, by the IPA cleaning station, and finally by the NaOH bath.
- Extra boxes are located in uFl.

4. *Replenish hazardous waste labels*

- Empty solvent bottles should not be rinsed. Make sure to cross out the labels with a Sharpie and have a waste solvent label pre-tagged.
- If the waste bin is half full, contact EH&S to schedule a waste pickup.

5. *Check the sharps bins and glass waste bins*

- If full, seal and tape off the top and replace with a new bin.
- To take out the glass waste, there are rolling trash bins with red tops behind Elings Hall. Ensure that two people take out the glass waste, and that you hold the bins from the bottom.

6. *Take out the trash*

- The trash should be enclosed properly (wraps found in the drawer to the left of the hood) and marked as contaminate with liquid resin.
- Replace the container frequently to leave room for wrapping the trash.

7. *Tidy up and organize spaces*

- Put away tools, lab coats, and safety glasses.
- Make sure all drawers are closed and lower fume hood sashes (except the one with imaging equipment).
- Organize scrap wood: put it on the shelf near lab coats.
- When cleaning the electronics workbench, clear any wires and tools from the bench and check to make sure that the soldering ions are turned off.

8. *Make sure all power tools and cabinets are locked*

9. *Fill out the IPA in the resin cleaner to the halfway point of the indicator lines. Measure the specific gravity of the IPA in the cleaner*

- If the O-ring on the measuring device sits above the large flaps, replace the IPA.
- Reminder: Check the IPA level in the squirt bottles regularly.

10. *Clean up sander/grinder*

- Use the paintbrush hanging with the tools and the vacuum to clean up debris.

11. *Clean and lubricate the mill and the lathe*

- Vacuum away any chips and debris.
- Oil using the oil bottle into all lubrication valves.

12. *Clean the bandsaw and the drill press*

- Use the vacuum.
- Ensure that you take the power supply off the drill press.
- On the bandsaw, open up the top door and make sure the inside is clean.

13. *Camera maintenance*

- Change the camera battery. The battery door is on the bottom of the camera and here is a wall charger in the fume hood.
- Turn off the camera box light. The power button is on the side.

14. *Clean the laser cutter*

- The platform should be cleaned weekly to clear remnants of jobs. (Open the drawer for vacuuming if necessary)
- The lens should be cleaned weekly.
- Both of the mirrors (there are 2 mirrors) should be cleaned monthly. The cleaning log is found on the exhaust manager to the left of the cutter.

15. *Clear the cricut and ultimaker shelf*

- Make sure to wipe remaining glue on the Ultimaker platform.
- Take out the platform and use IPA.

16. *Clean around the carbide 3D*

- Vacuum the surrounding chips with the shop vac.

17. *Formlabs maintenance*

- If the build platform is not on the formlabs printer, use the additional rotation platform from the resin cleaning fume hood.
- Replace liners in the 3D printer cleaning fume hood. Use the stock in the cabinet located to the lower left of the hood.

18. *Stratasys maintenance*

- Check the filament level, replace it with stock from the shelves in the corridor if necessary.
- To vacuum the print platform, go to settings and bring the gantry up; preferably use gloves.

19. *Miicraft maintenance*

- Remove the resin cover and mix the resin with a disposable pipette (found on the big, white box across the room) until the solution is homogeneous.
- Return the cover to protect from dust.
- **Note**: Be careful when stirring, Teflon is extremely sensitive.

20. *SCA 1200HT maintenance*

- Check for the fluid threshold level weekly. Over longer intervals, remove the container to check for parts in the cleaner (rotate 90 degrees to minimize splashing.)
- **Note**: This device is particularly dangerous. Wear gloves, coat, and face shield when opening the door. Ask the manager or other WWs for detailed instructions.
- **Note**: The alarm may sound if the container is lowered too quickly. Silence the alarm with the button that is indicated with a warning light but do so only if you are certain that this was the cause of the alarm.

Incubator chores

1. Check hand soap dispenser - add soap if needed
2. Check paper towels in dispenser - add if less than half full

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