Workshop Wizard Weekly Cleaning and Maintenance

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Elings 3430 Lab Maintenance & Cleaning Manual

1. Check and replenish paper towels in dispensers

- Paper towels are stocked in brown paper packages on the shelves above the crystalmark
- 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 is.

2. Check and replenish gloves

- Check if any glove boxes are about to run out; there are 2 glove locations in uFL.
- Ensure there are always 2 extra boxes of each size (most importantly M and L) in the main glove location located by the lab entrance.
- Gloves are stocked on the shelves above the workstation next to the crystalmark.

3. Check sharps containers

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

4. Check glass waste bin

- If full, seal and tape off the top.
- 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.

5. Check and replenish Kim wipes at every station

- Kim wipes are stocked on the shelves above the crystalmark and adjacent workspace.

6. Tidy up bench spaces

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

7. Check and replenish hazardous waste/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 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.

8. Monitor the hazardous waste jugs

- Check waste levels in the containers.
- Generally, move to the pickup bin if the hazardous waste jug has not been replaced for about 9

months or if it is over 75% full.

9. 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 flammable cabinet.
- 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.

10. Top off the Sonicator with DI water 11. 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.

12. Replace dirty bench liners

- Remove, wipe the area, and place a new one shiny side down.
- Stored under the PDMS work station.

13. Check resin waste

- If full, tie off bag and label with hazardous waste label.
- Place in hazardous waste bin.
- Replace bag with new bag located on metal shelves near entrance.

14. Take all resin trays and cartridges out of the resin printers and put them back in the cabinet below.

15. Fill resin wash with IPA in between the marked lines. Measure the specific gravity of the IPA in the wash.

- 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.

16. 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.

17. Make sure all cabinets are locked and lockboxes are locked and closed.

18. Turn off Keyence light, put black stage on, make sure 200x objective is in use.

19. Clean the laser cutter.

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

20. Clean laser cutter lens.

- Tools in the laser cutter cabinet.
- 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.

21. Ultimaker cleaning & Bambu cleaning

- Clean out any scrap filament from the bottom of both printers.
- Make sure to wipe remaining glue on the Ultimaker platform by taking out the platform and using IPA.
- Clean the Bambu tray by removing and washing with warm water and soap.

22. 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.

23. 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.

24. 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.

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1. Check and replenish paper towels

- There are paper towel dispensers above every sink.
- Extra paper towels can be found in 3430.

2. Check and replenish gloves

- Extra boxes are located in 3430.

3. 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.

4. 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.

5. 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.

6. Make sure all power tools and cabinets are locked.

7. Water jet maintenance

- Make sure the water jet is turned off and check if the abrasive needs to be restocked
- Bags of abrasive are stored in the shipping/receiving area downstairs at the back of Elings.
- Clean the inlets by rinsing them off and wiping off any metal on the magnet.
- Do an abrasive collect.
- Check that all abrasive collect spots (4 near each corner under the bed) are free of abrasive near the openings. You should use the water tube to blast away any abrasive and create a siphon with another tube so that the tool doesn't overflow.

8. Clean up sander/grinder

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

9. Clean and lubricate the mill and the lathe

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

10. 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.

11. Sweep, mop, and vacuum the lab

- The shop-vac should be emptied weekly and the batteries replaced as needed

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