

Using the Afinia H-Series 3D printer and software

JMU 3-SPACE Classroom

If you are working on your own in the JMU 3-SPACE classroom then you should have already been trained and certified in class or by an instructor or TA. This handout provides a quick reference to help remind you of the basic steps and give you tips about troubleshooting. There are also manuals for the Afinia printers in the file box near the first aid kit, in case you need more information.

Getting a print started

- Turn on the machine from the back right corner.
- Set up the perf board with clips at the front and back (not sides!).
- Open the Afinia 3D software and select “3D Print/Initialize”, then wait for the beep.
- If you are using the machine for the first time that day, or have reason to suspect that it is not set up correctly, then verify that the filament is loaded and untangled, that the platform is level, and that the nozzle height is set properly.
- Select “3D Print/Table Heat 15 minutes” to start heating the platform (you don’t have to wait).
- Load and auto-place your model in the Afinia 3D software.
- Use “3D Print/Print Preview” and its “Preference” submenu to establish print settings. The recommended default settings are Z Resolution .3mm, “Restore Defaults”, and Quality “Fast”.
- Press the “3D Print” button to start the print.
- Watch the first few layers carefully to make sure nothing bad is happening, and make a note of your print settings, estimated print time, and the time your print started.

If things go wrong, turn it off and on again!

- If the Afinia 3D software hangs, then force-quit the Afinia 3D software by pressing Option-Command-Escape. Then restart the software.
- To stop a print that is being sent to the Afinia but has not started physically printing yet, select “3D Print/Print Preview” and it will ask you if you want to stop the current job.
- To stop a job that is physically printing but has gone wrong, select “3D Print/Maintenance” and click “Stop All”.
- If a print job hangs when the data is being sent to the printer, or if you see the “crazy blink” on the printer for an extended period of time, press and hold the initialization button on the front of the machine until it re-initializes. Then turn it off and on again and restart and reinitialize from the Afinia software.
- If your mouse isn’t working, unplug the tiny USB nugget from the back of the computer and then plug it back in again. If that doesn’t work, make sure the mouse is turned “on” underneath and check the battery level.
- If your keyboard isn’t working, try turning it off and on again from the side of the keyboard. If that doesn’t work, try restarting the computer.

Typical things that can go wrong

- If the printer is making an unusual scraping or clicking noise, then stop the print immediately. A scraping noise may indicate that the nozzle height is set too close to the platform. A clicking noise may indicate that there is a filament clog in the nozzle.
- If your prints are not sticking to the build platform, if the model comes loose during printing, or if the corners or edges of your model start curling off the platform, or if the machine starts printing filament fuzz into the air, then your nozzle height is probably set too low (too far away from the platform).
- If the filament seems like it is not extruding enough, if your print looks smushed down by the nozzle passing over it, or if the machine simply stops extruding and moves around with no filament coming out, then your nozzle height is probably set too high (too close from the platform).
- If one corner or side of your print is having the problem above and your nozzle height is set correctly, then it is likely that the platform has come out of alignment and needs to be re-leveled.

If you don't know how to fix a problem that your machine is having, then leave a note on the machine to describe the problem in detail, and move to another machine. Please leave as much information as possible, and also leave your name and email in case we need to ask you questions while repairing the machine.

PLEASE DO NOT ATTEMPT TO TAKE APART THE MACHINES OR PERFORM ANY MAINTENANCE OR CALIBRATION OTHER THAN SETTING THE NOZZLE HEIGHT AND LEVELING THE PLATFORM, EVEN IF YOU THINK IT WILL BE EASY.

For emergency help and advice, try texting Laura at 540-246-3185.