

sdmay19-03: 3D Metal Printer - Phase II

Semester 2 Week 1 Report

January 28th - February 1st

Client/Advisor: Dr. Bigelow

Team Members

Thomas Waters — *Computer Engineer*

Ariel Rizhsky-Yakobson — *Computer Engineer*

Jacob Gosse — *Electrical Engineer*

Alvin Rymash — *Electrical Engineer*

Armand Hernandez — *Software Engineer*

Summary of Progress this Report

During this reporting period, we focused on getting all of the parts ready for the printer. The vacuum sealed chamber was worked on, with the wires going into the lid of the chamber. The mechanical engineers completed the printer and powder beds, but they are still finalizing the powder collection.

Pending Issues

Some of our pending issues include the powder collection bin that still needs to be made. We also still need to make a mounting for the laser to be attached to the printer. We will need to make one and ensure it has the right dimensions, then make another to allow for mounting both brackets.

Plans for Upcoming Reporting Period

Our plans for the upcoming week are to finish installing the electrical cables/wires into the vacuum sealed chamber and to create the adapter to hold the laser. Finishing the electrical cables/wires into the vacuum sealed chamber will help to complete the vacuum sealed chamber. This would include sealing each port and to finish the connection ports for each wire/cable. The adapter to hold the laser will have to be created in CAD. The adapter was created to connect the laser holder to the stepper motor. Another thing we plan on doing is to plan out where we would want to put the camera and the barometer.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Thomas Waters	Set up meetings with EHS to finalize safety concerns, as we are not allowed to work with the laser until this is done.	4	4
Ariel	Assisted Thomas with coordinating the	4	4

Rizhsky-Yakobson	meeting and helped Armand review code.		
Jacob Gosse	Made sure that all the wires were connected properly, did an inventory check on all sensors that are available.	4	4
Alvin Rymash	Made sure the wiring in the vacuum chamber were correctly labeled, inventory check on the sensors.	4	4
Armand Hernandez	Reviewed the code and making sure all ports are in sync	4	4