Path Forward Basic Requirements

1. Acceptable test geometry
2. What will you be doing next semester?
   1. What must be designed?
      1. What are the requirements of the design?
   2. What will you do if you discover a certain design won’t work?
      1. What are your backups?
3. What will you accomplish by the end of the next semester?
   1. Deliverables
4. What do you want to explore in terms of research?
   1. Methods
5. What resources do you need from Dr. Mitchell?
   1. If you can’t get those resources, what would your budget look like?
6. What do you need from each subteam?
7. What will you bring to the research? In what way is the work or plan novel?
   1. Tests
   2. Methods
   3. Verification of prior research models/proposals for future work
8. If you discover that your goals or methods are too complicated, what will you do?
9. **In general, if you were to start tomorrow, what needs to happen? How will you make it happen? When are your deadlines?**

This is mainly for subteam liaisons:

1. How will you manage your subteam and ensure that your deadlines are met?

High-Level Requirements

# Overall

* Determine the dimensions of the void
* Determine the shape of the void
* Finalize the dimensions and shape after combining findings and requirements of each subteam
* Define autonomy (overall and for your subsystem)
* Plans for independent testing
* Plans for dependent testing
* Determine high level requirements for your own subsystem

# Extruder

* Research into extending the nozzle
  + Maintain heat up to point of extrusion
* Collaborate with extruder to make a mount
  + Go into Robotics Realization lab and take some measurements
* Plans for independent/dependent testing
* Accurate 3D model for extruder
* Electronics requirements
* Determine properties of materials during print (Flow rate, Tensile strength, and slippage)
* Budget

# Structures

* Determine dimensions and shape of void (range of measurements)
* Accurate kinematic model of arm
  + Testing accuracy methods
* 3D Model of arm (CAD)
* Electronics requirements
* Budget
* Plans for independent/dependent testing

# Scanning

* Determine dimensions and shape of void (range of measurements)
* Determine the type of scanning method(s) to use
* Determine software to use for every step
* Determine algorithm to create toolpath
* Budget
* Plans for independent/dependent testing