Describe your overall duties/responsibilities as an Additive Manufacturing Engineer:

I am responsible for the process, planning, and development behind making an additive part. My work ranges from early technology and manufacturing development to production support. Early technology and manufacturing development involves dialing in specific part geometry, developing post-printing processes, and making specimens to test material properties. Production support consists of tasks which aim to streamline the manufacturing process and improve efficiency, increase production rate, and reduce non-conformances.

Explain the skills/abilities that are required for being successful in your role:

As a manufacturing engineer there are always processes that can be improved or an analysis that can be done so knowing my priorities, managing my time, and attention to detail helps me be successful. Another key skill is communication and working with the customers, management, and technicians. Each group has different priorities and concerns and knowing how to communicate with each one is crucial. Understanding the customer’s critical requirements helps define how to build and process parts starting in early development. It also gives the manufacturing engineer an avenue to work with the designer to relax tolerances and requirements in areas that are not as important to the design (form, fit, or function) to make the part more producible. Successfully communicating with management can help bring awareness to your work and potentially solve roadblocks.

What advice would you give to students who are considering majoring in Material Science and Engineering?

My advice would be to not worry about not knowing what you want to do when you graduate college. I would suggest that you give material science and engineering a try if you have any interest in different materials or how things are made. MSE covers career paths ranging from polymers, metals, ceramics, semiconductors, and beyond. Material engineers are valuable in every field and this degree is a great starting point to get you into the engineering field or any job after college. I have friends who graduated with me that are now materials engineers, manufacturing engineers, electrical engineers, mechanical engineers, etc.