Career Planning Document

1. Summary of Goals and Professional Objectives

The technical areas that I am considering working in at this point in time is possibly manufacturing, propulsion, or composites. The reason for these choices comes down to the classes I have taken to develop an interest in those areas. For manufacturing the classes that influenced that decision were a manufacturing processes and capstone classes I took as an undergraduate. I enjoyed getting a hands on feel and seeing something form from raw material. Propulsion has become an interest due to the aircraft propulsion class I took, as well as the fluid mechanics class I took as an undergraduate. The composites selection is based on a class that I took for double counting in the 4+1 program, which was Polymers and Composites. I would like to work either in the state of Arizona or somewhere close like in states near it. The biggest reason for this decision is that my parents live in Arizona so I would like to still be close to them so that I can visit when I want and it makes traveling during holidays easier.

In the short term I plan to finish my Master’s degree and go to a company like Ball Aerospace, Boeing, or Orbital. They fit the technical areas I am interested as well as location wise. In the long term I plan to still be at a company that I enjoy with all my loans payed off and not much to worry about besides my continued learning. I do not have any plans to have a company of my own as I do not envision myself owning a company.

The short term and long term plan for my life that doesn’t include my work is not even a thought in my head. I am only really focused on my professional goals. Outside of that I really don’t have any aspirations.

Current Status in Education and Personal Life

I have completed some coursework as I talked about above that led to the current technical areas I am interested in. I had planned on taking rocket propulsion this semester, but due to how my summer went I ended up having to take Linear Algebra this semester alongside a Partial Differential Equations class. It would have been nice to take some interesting statistics and probability courses that may be helpful as well in general, but they may have been challenging due to the prerequisite knowledge required ahead of time. I am looking forward to deepening my understanding of these topics or reinforcing what is common throughout. The propulsion classes would allow me to work as a propulsion engineer and eventually design my own propulsion system, the manufacturing classes will give the analytical understanding of the
manufacturing, and a more rigorous class on composites could have been useful but this is my last semester so I will have to do stuff outside of classes on my own pertaining to those subjects.

As far as professional preparation I feel I am at a point where I am satisfied with my resume when I submit it for job positions or give them to recruiters at the career fair. Cover letters I do not feel prepared for as I only have a basic idea on how to put a proper letter together. My writing skills are ok and can always be improved. I feel that giving presentations is easier if I practice, practice, practice. Critical thinking will always be a challenge as that is the main thing you get hired for along with problem solving. Listening I am good at as long as that is the only thing I need to focus on. Career and general planning will always be rough as even with this paper and other things meant to help, I just don’t know what I don’t know. Since school takes up all of my focus for the most part I don’t really think about anything other than that and looking for jobs when I graduate. Professional and personal mentors would be nice to have, but I don’t know how to express myself well enough to not end up complaining about things I am stressing about and actually get a conversation on what I need to do to make sure this doesn’t happen in the future.

Working independently and as a team I am fine. I just procrastinate quite a bit and sometimes there is friction in teams that eventually gets solved. Reading and understanding technical material can be easy or difficult depending on if I have any basic understanding on the underlying concepts. When it comes to some topics I am more interested in and have taken more courses in I am more familiar and it doesn’t take as long to get an understanding. For topics way outside of anything I have ever had there is a significant lack of understanding as I just don’t have the foundational knowledge necessary. It is like trying to rush into building the roof of a house when the walls and supports have not even been done yet. I think I am about average at learning. Communicating what I have learned to others is very situational as well. If it is a topic I have a very miniscule amount of knowledge on I would rather not communicate about it as I will inevitably show how lacking in knowledge on that subject I am. Using math, science, and engineering concepts to solve real-world problems is iffy. It doesn’t help that all the basic classes like the calculus, physics, and chemistry was taken a long time ago and did not get constantly reinforced by classes I had taken after. I would have to spend lots of time reviewing and refreshing myself on the topics. I do not feel like I am good at making decisions or dealing with uncertainty. I am very fearful of making a mistake that cannot be fixed.
I think my social life is where I am ok with it. I am not the kind of person to always want to be talking to someone. Just socializing during a normal day drains me greatly. I don’t necessarily have friends in my real life that I go and do things with outside of school based events. Most of my friends tend to be online where I share the common hobby of video games. I really should get more friends that I know face to face in all honesty. I really only want to have a smaller social circle as it would be easier to keep in touch and not get overwhelmed with social obligations. 

Financially I have a decent amount of loans that I will need to pay off when I graduate. I will start paying off my loans after I finish schooling and I have a job that allows for that. I plan to have them payed of within 2-3 years after graduation. I do not like the feeling of owing money, which is likely why I very rarely use my credit card. It only really gets used for bigger purchases like textbooks just to build a tiny bit of credit. 

**Education goals and planned coursework (in general after BS/BSE)**

Education is important to me as it will allow me to work on projects that I would not normally be able to with just a Bachelor’s. It also makes sense to get it done now through the 4+1 program instead of putting it off. I have gotten my Bachelor’s already and I am finishing my Master’s. I do not plan to go for a PhD. As I said above some of the coursework that I will be taking next. I do not feel the need to plan too far in advance as I only have a year left before graduation. I am not building toward anything besides having the knowledge/skills necessary for jobs I may look for. My current plan is still trying to get a job sorted out by graduation so I don’t have to be stressed about that.

**Research importance (goals and experience)**

I believe that research is viable way to figure out what I do and do not like. I am currently doing a little bit of research due to going with the supervised project route for the 4+1. While doing research I did learn a bit about what I do and do not like which has been the goal I wanted to achieve. I do not believe that the specific topic that I work in with research will be the main driving factor for what I work on in industry, but the experience is what I am valuing from this. While this has been useful to me as an experience I knew ahead of time I did not necessarily want to go down the research route to begin with. 

**Industrial importance (goals and experience)**
Industrial experience is important as it gives me an idea on how I would bridge what I learn in my courses and apply it in the solution of real world problems. The experiences in industry that I planned to have before graduate school would be largely composed of internships either during the semester or during the summers in between semesters. The internships would provide me with some job experience, and allow me to figure out if the current task I would be assigned to is something I enjoy. I would be able to take a look around and see what kind of tasks are given to people with different levels of degrees. I would also be able to observe the company culture and decide if it is a fit for me. On the chance that it is a fit for me then I know I would want to apply for a job at the company after obtaining my degree while if it is not a fit then I know then what I do not like and I can continue to keep on looking for a company that I do fit into. Unfortunately things did not pan out and I never got the chance to have an internship which would have been useful.

**Community Service importance (goals and experience)**

Any and all community service I can obtain is valuable as it allows me to give back to the community. My previous goal in regards to community service was to lead my own group of students through a project that I have created as a subset of the STEAM Outreach Program. It would be a good experience for me to be able to show another side of engineering through something different than the mechanical flapping birds and Arduino robot cars that we have currently been using. My current community service experience involves the STEAM Program, the METS trip events, and a variety of student panels. Each of these experiences helped me build up my public speaking skills and give me something to talk about in interviews. I plan to continue to donate my time to making sure these events are successful as they help students in meaningful ways and promote engineering to the community at large.

**How Mentors can help with Plan**

Mentors would be useful to keeping the plan successful due to them being able to give sound advice when I need it. I would be able to avoid the mistakes they may have made and avoid making too many of my own mistakes. They will also be able to help make sure I keep focused and I do not waver in my following of the plan. Mentors may also be able to help me find a professor for any research purposes or who is the best to take a certain class with. It will help me keep my GPA high as well as learning the course material in an enjoyable way.

**Graduate School (importance and goals)**
Graduate school is quite important for me as I am working on finishing my Master’s degree. I decided to go to graduate school since I had been convinced it was in my best interest to pursue a graduate degree in order to gain a better understanding of topics in my particular field. I had also been told that graduate school was more fun for a lot of people compared to undergraduate school, due to you being able to do what you want rather than not having all that much choice. I am already in the home stretch so there should be no changes to my plans to get a Master’s degree as this is my last semester. I have had some bumps along the road so far in graduate school career, but I have survived and did learn from the experience.

**Professional Goals**

My professional goals after obtaining my Master’s then get a job in industry. As I have not had an internships I do not know what it is like to work in industry so I will just plan for that to be my goal. I do not plan to go into teaching with a graduate degree and I do not plan to focus solely on research. I have some experience with research, so I am still not sure if I truly like it due to the topics I have done research on being interesting, but not in the way of continuing to do research into that topic as a career. I also plan to be confident in my ability to speak in front of the public through plenty of opportunities that will give me the chance to practice and refine those skills. I had planned to join a profession student organization in order to better network and make the connections that would ease the process of getting internships or a job, but just never really got around to it.

**Lifelong Learning (goals and plans)**

Lifelong learning is something I think would come naturally if I continue to be curious and eager to learn new and interesting things. I can help the process along by increasing the sources of new information I access. One resource that would be valuable would be TED talks. The talks are all uploaded on the internet so I am able to browse and watch them in my own time. The talks are very similar to the research seminars that I have gone to during the last couple semesters even if it is not a professor talking about their research. Learning is still achieved and I am able to broaden my horizon. Another resource would be something like the magazines that the IEEE organization sends out to its members about new developing technology and other related materials. I have not been able to extensively look at one of their magazines, but I suspect that the articles go into enough detail to gain a basic understanding. In essence my plan for
lifelong learning after a Master’s would be to take advantage of the variety of sources available in order to keep my curiosity at a high level.

Health/Fitness Plan

In order to keep healthy and fit I plan to either join a gym that a friend frequently goes to or get personal equipment for at home working out. While in school I just find it harder to convince myself to do what needs to be in relation to this topic when I have other things that I need to do. I also plan to cut down on the amount of fast food I eat when I have the money to keep a constant supply of fresh fruits and vegetables. If I prepare lunches before classes or work I will be able to save money in the long run as well as make sure I am eating healthy food. I want to feel comfortable and confident in my own body so I need to make sure I take care of it.

Finance Section: How will you pay for graduate school, build financial stability/good retirement plan

In order to pay for graduate school I continued to get the ASAP scholarship and had to take out loans to pay for tuition. The money from working as staff at the METS Center has been useful more so for paying for food and gas.. After I obtain my graduate degree I plan to continue to live with the budget of a college student as best as I can in order to make sure I am able to pay off all my loans in a timely manner. When I am able to have all the loans paid off I will be able to focus on saving my money. When I obtain a paycheck I plan to put a percent of it into a savings account in order to slowly build up. This savings account will the primary resource in paying for a house and helping me to retire when I feel that it is time. I can also consider quite a few options for later on in the road like mutual funds and a 401k. Those will come after I have finished school and I have a salary that allows for me to both live and save on it.

Family Planning

There are no plans for family at this time. I do not plan to get into any relationships until I have completely settled my life, which means I have finished my degree and I have a stable job. I do not feel like I need a distraction that will drastically increase the time it will take for me to stabilize my life. I do plan to help out my mother while my siblings and I still live in her household as that is the responsible thing to do.

Travel Plans

There are no plans to travel if I can help it. I know there are certain jobs out there where you are able to travel and experience the world, but for me that would be too stressful and I
would find it to be even harder to settle down with that sort of occupation. If I do obtain a job where I am required to move to another state I will find a way to manage. The plan for the moment is to try and find a job in Arizona so I that I can stay close to my family.

**Contingency Plans (What will you do if your main plans do not work out?)**

On the off chance that my main plans do not work out I will find a way to make what has worked out so far work until I can see what can be done to get back on track with this plan or a modified one to accommodate for issues that may have arisen. I would plan to develop or modify the plan if things did not go as expected.

**Philosophy of Life**

My current philosophy of life includes the promotion and inspiring of others to become engineers. I believe that engineering is a noble profession that is required for us to advance as a civilization and not be forgotten with the times. As humans we are constantly adapting to problems that arise by formulating solutions to the problems. In essence an engineer is there to solve problems through a variety of solutions.

**References**

I have still not been sure on what I really would have needed to research. Most of the information I have used to answer a lot of these questions for the plan have been gained from various classes.