Summer Of 2016

MATC INTERNSHIP PROGRAM

At

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This summer I participated in the Mid-America Transportation Center (MATC) internship program. In this program, students are hired by an engineering firm pertaining to civil engineering with an emphasis in transportation. This program also had a field trip to the largest railroad classification yard located in North Platte, Nebraska. Overall, this internship program was one of the best decisions I have made for my future goals and education. The company that hired me is Alfred Benesch & Company, and I was placed in the aviation transportation area of the company. In this firm, I learned crucial skills and knowledge for the aviation transportation discipline in civil engineering, which I can use to my advantage from now on. This report will include the tasks I completed, projects I worked on, and as well as the skills used and learned at Benesch. The three main skills I used at Benesch were design skills, teamwork communication, and problem solving skills. I will also talk about why this internship was very beneficial and important for my pursuit in a field and career.

This was my first job that used my skills as a graduate in drafting, and I did not know how much more I needed to learn until I worked at Benesch. As stated in the introduction, design was the main skill I used in the drafting portion of the projects I worked on, and having a degree allowed me to efficiently help the team. Using AutoCAD Civil 3D, a computer aided design software used to create blueprints for buildings and bridges, among other things, we created a sheet set needed for reconstruction or rehabilitation of an airport. My skills were first used to create details for sections, inlets, and other needed detail drawings for the construction process. Then as time and trust progressed, the team needed me to do more work in the design and layout of a sheet. This included working on base files, which are used to show existing structures, such as: sub drains, electrical lines, marking layouts, and a lot more. My

responsibilities then progressed into the depths of Civil 3D, a feature of AutoCAD that I needed to learn quickly.

This brings me to the next skill I used the most: problem solving. I was never shown how to work in Civil 3D when I was enrolled for my associates in drafting. This was a new frontier for me, but I had to do it. AutoCAD Civil 3D is very complex software, and if you don't understand its purpose the software is very hard to grasp. Civil 3D is used to maintain more consistent data and processes. If someone designed a 3 mile road with many different structures running down the road, that person would easily be able to identify every component of all structures and gather data that can be called out when needed. Civil 3D is used to speed up the process of design, but can also slow down the schedule if it's used wastefully or excessively. Sometimes the best way to do something is to do it the old fashion way.

The third most important skill I developed at Benesch was team communication. Benesch has a great organizational culture, and when working on a single project with a lot of people, communication is key. There are many areas of design happening at the same time and when they need to come together, all components need to match. Designs are based off the same information, and if one person was excluded of the decisions being made at a meeting, the whole process will be delayed. In the world of business, time is money. The part I really liked about this team's communication is that it is multidimensional and non-linear, and also how they included me throughout the whole program. At first there was a little miscommunication between the team members, but the company has great leadership and that problem was solved quickly.

As an intern, I did not expect to be given very much responsibility. I was wrong, and my tasks grew to the point that some days I could work ten hours unceasingly. My tasks included detail drawings, sheet organization, base file creation, payrolls, specifications, quantities, exhibits, and typical bottom feeder intern jobs. On each project it was a little more or less of each task, depending on the current stage of the job. As I learned over time, the design of a project is a roller coaster ride. During this internship I worked on both reconstruction and rehabilitation of airport runways, taxiways, parking lots, and other aspects of airport construction. At Benesch we worked on airport designs around the nation. The jobs I helped with were at Salt Lake City International Airport in Utah, South Bend International Airport in Indiana, Pittsburgh International Airport in Pennsylvania, and I am currently helping with the reconstruction design at Kearney Regional Airport here in Nebraska. The most memorable thing I did here at Benesch was working on an exhibit for a parking lot marking layout. We changed designs three times in one day, and that's what happens in the design world because there always is a better way to do a job.

Overall, this internship was a great experience and I am very thankful to Laviania and to everyone at Benesch. I have learned so much about the design process, safety, and regulations on airport construction. This internship also helped me with my team building skills, and as well as helping me grow as a professional. Now I know what the transportation side of civil engineering has in store for me, and I'm a lot more interested in pursuing a career in transportation engineering. I would recommend every civil engineer that has not decided their path to take this internship.