

My Odyssey in *Intro to Engineering*

I stepped into the classroom at the beginning of the year and immediately knew I was going to learn a lot, but at what price? Though I have gathered and gained a lot in the area of engineering, a topic requiring both mathematics and science, I have come away with a different viewpoint on the functions of the classroom and the topic. The very first evolution in my viewpoint was that some people can become very eager about the most simplistic and boring things such as writing and constructing the very reflection of the year that I am typing up currently. Fortunately I was able to move past the odd obsessions of my classmates and the dull jokes of my instructor and learned the basics of weather, resistors, hot air balloons, energy, atmosphere, constructing bridges, global climate, building towers and renewable resources. The list goes on and on. And now as I look back on the brief twenty-four week period I realize that in this short period of time I have absorbed the knowledge that I would normally gain in approximately seventy-two. Another evolution in my view point is that there may be no I in team but there sure isn't any we in it either.

In the past two trimesters we as a class were constantly given labs and assignments to test and add to our knowledge of the sciences and engineering as a whole. Though we did not build and construct anything massive we did enhance our previous knowledge. And it is in this process that we were grouped repeatedly. That is where and evolution of my viewpoints took place. "There is always some one bigger, faster, and smarter than you" but there is also some one with less attention span and motivation than you. Our groups were not the same always but they were the same some of the time.

People always found a way to get off track or shirk their work and this deteriorated the effort of the whole team and it was not fair to everyone else but "life's not fair". Thus in every individual project and lab someone in the group impeded our progress creating a devastating deadline in multiple circumstances. You fall down and you get back up and that is how this course and I learned to appreciate each other. As the two trimesters dragged out, the class became easier and easier but not at all less confusing.

A major project for this course was the Hot Air Balloon project. Project may sound menacing but this project proved to be an angel when it relieved us of any and all homework for the first half of the second trimester. The first step was to make a list of possible design options and then choose one. For some odd and remarkably stupid reason by group decided to construct a cube but with flat corners? This design not only added more work for us but it also hindered our air volume to mass ratio. Not good. As launch day came closer and closer almost no team neared completion. Our team had hope though, for all we had to do was glue all the sides together to form a complete cube. We fell short but thankfully Cameron took the balloon home and finished it. By the end of that project I realized the two main obstacles in engineering something is time and mostly space. In the cramped work conditions of the classroom almost nothing was completed. But in the end our team had a balloon that flew. It may not have one any of the extra credit but we did not give up even through all of the confusion, stress, and resentment within our group. That is one thing that I'll always remember in future projects and jobs.

Other projects that shined a light on engineering were the paper tower and straw bridge lab. These two unique projects made me realize that the preparations and decision

making processes where much more tedious, labor intensive, and important to our projects than actually constructing the finished product. This is because no matter how good you can build something or how knowledgeable you are on the subject you have to plan out your steps before you do it or else you are going to crash and burn. You have to analyze your options, think about the build time, the materials needed, the fastest way to build that certain project and last but not least the deciding factors such as time, building area, and your team members. From these two projects I have learned that you just can not go charging head first into a project: you won't finish, you won't have a good product, and you won't feel accomplished after spending precious time on whatever it is you are doing.

Lastly, I have learned in this past year that you can never be 100% sure about anything you are doing. No one is perfect and every one is bound to make a mistake whether it is your own fault, the fault of others, or the fault of the machine or instrument you are using. Multiple times in the Endeavor course my groups and I have come across problems in our data and graphs that were off by a mile but with the help of our teacher and our own persistence we were able to correct the error whether it was instrument or operator error. Every single assignment we were given we were able to successfully complete and this factor significantly benefited us when it came test time. About half the time we as a group and a team had to redo our data set or go back and redo our graphs. It was a struggle but we got it all done because we learned to cope with our mistakes and find help from someone else who could point us in the right direction.

From this point on in life, in the future, I will reflect upon what I accomplished back in freshman year in Intro to Engineering and remember the multiple life lessons.

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First off, time and space can impede your progress and you need to be prepared and ready for anything in order for the roadblocks to not get the best of you. Secondly I learned that it is impossible to charge into something with out an idea and be pleased with the result. And lastly I have taken away from this course that you can never be right 100% of the time you have to go to the professionals for the answers and for the help in order to clean up any mess you have already made. I would just like to thank Mr. Kliever for his help and knowledge that he passed on to my classmates and me in this remarkable class that he instructed. It is just mind blowing to think of how many topics we covered in the brief twenty-four weeks that was easily enough to last a high school science class for two years.