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World of Engineering Reflection Essay

When the World of Engineering (WOE) course started, I thought it would be a theory type class in which we would be told about how different engineering branches work. But it was totally different. We had to work on a real problem and try to build something that actually works. Our group decided to make a filter-less air purifier that works using electrostatic precipitation. At first, it seemed very tough. We thought it won't even work and making high voltage stuff seemed risky too.Before this, I had done a project in the DIP course, where we made a special hurdle for athletes to avoid injury. That project taught me how to work in a team and how to take feedback seriously. That experience helped me in WOE too. But WOE felt more challenging,technical and bigger. The DIP project was more about design, but here we had to deal with real electric circuits, metal sheets, and safety too.

At the beginning,I was put in the reverse engineering team, where we studied how electro static precipitator based air purifiers work. Then I got moved to the subsystem team, where we planned how each part of the purifier will work and also planned the overall design and dimensions. After that, At the end, I was put in the prototype team where our work was to create the actual working model. I had the work to cut metal sheets and stick them on acrylic plates. That work was tough because the cuts had to be exact, or it wouldn't fit properly.

We were around 30 people in one team,managing this many people is a very difficult task. Sometimes no one knew what the other team was doing. But it was made better by making Parth the captain and Pranay the vice-captain. They divided the team into smaller groups like CAD, reverse engineering, prototype, video, which made the things easier.

We also had a budget of Rs.15,000, so we had to be careful about what we bought. Some things were too expensive, so we had to change the design a little or find cheaper parts. That was the first time I saw how budget also matters in engineering.

The part I liked the most was prototyping. It felt good to actually build something instead of just thinking or planning. I remember one time when I was trying to cut a metal sheet, and it didn't work for so long. But when it finally fit, I got the feeling of accomplishment.

If we had to do this project again, I think we should've talked more between teams. In the beginning, each team was doing its own thing, and later some parts didn't match. I'd still keep the structure of the team the same, but more communication would have helped.

Before this course, I thought engineering was mostly maths, machines, and formulas. But now I know it's also about solving real problems, working with people, and thinking with the stuff you have. Many times, we had to adjust our plan because we didn't have enough money or time. That taught me a lot.

If we had more time and tools, I think we could improve the purifier. Maybe make the voltage system safer and the filter more efficient. I think it has some potential.

This course didn't feel like a subject. It felt more like an experience. I learned what real engineering feels like. I also learned how to work in a group, and to not give up and keep working even if something looks too hard, if you keep going, something works out.