

CSCE 155N Final Project

Makenna Smith

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Revision number -2

Use MATLAB to evaluate a few basic aspects of the design of a vehicle

<https://github.com/makenna8/FinalProject>

The first question asked us to plot efficiency verse power in. The general shape of this graph is that it quickly increases and peaks when power is at 20kW. It then slopes down slowly till the end. This makes sense to me because you need a battery to run and do everything, but at a certain point you have enough power and the only thing it's doing is adding weight to your vehicle. The second graph shows a straight line, as the fuel capacity goes up so does the endurance. This makes sense because if you have more fuel you can go farther. This information is useful for designing a car because if you want to maximize your efficiency you know exactly how much battery to put in the car and/or how big to make the gas tank. Overall, these graphs help you meet your constraints.

It took me about 6 hours in total. This is only including the time working on the project and not in-between time. It took me a while to figure out how to call the range in the function, but the instructor lead me in the right direction and I got it figured out. The report took me about 3 hours to write and the code also took me about 2 hours to get figured out. This includes the time I worked with Quinn. I believe this was a good project, time-based because it wasn't asking for too much code or writing. It had a good time frame and there were ways to get help if you needed it in time so that you didn't get behind or you were rushed. I felt this class did a lot of stuff but that everything had a purpose and that everything helped you learn. I enjoyed spending time figuring some of these things out, even though a lot of the time it was frustrating. I have always been a logical thinker and coding is pretty much that.

I did struggle a lot with the class at first. There was a lot of information thrown at me at once and I felt like there was a lot of information that was not explained to me. On the first day, we went over some broad terms in Matlab that did help, but they did not go over the basics of the actual program. It was disorienting and at times I had no clue what to do because I had the code

in the wrong file. Another thing I was confused about was calling the functions. I didn't know what to type and what the format had to be. I figured this out over time, but I think there should have been a lesson about that after we learned about the first few basics of code. One thing that could have helped me in this course is going through the code slower so that every piece could be evaluated, and nothing was implied. I believe that if this would have happened there would have been more times where I could learn how to call functions and the purpose of putting in certain annotations. One thing that did help was the class activities. I enjoyed going through them and I learned a lot from them. The only method I used to catch up was just to re-watch lectures and follow along slower so that I could understand the stuff that was skipped over.

The start of the class for sure needs some improvement. There were a lot of things that were skipped over and if I were introduced to the program better, I think I would have a deeper understanding of Matlab. Overall, the hour lecture did not seem like enough time to get to understand the information presented and I frequently had to go to office hours because something was skipped over, and I did not understand it. In the lecture, I did like all the participation because Quinn called on people. It gave a chance for the instructor to explain certain things that people did not understand before they were lost completely. Office hours seemed to be empty and so there was no competition for one on one interactions. The lab hours were also helpful because they were right after class and it gave a chance to work on it with a person to either get help from or bounce your ideas off of when you were unsure of the steps to take next. I don't believe that lab needed to be 2 hours long, but it was helpful when you hadn't started the lab. The last thing I want to comment on uploading files in a timely manner. I would want the lab to come out earlier, like at the beginning of the day, so that I could work on it before lab hours. Also, class activities should be posted earlier so that I could download and understand

what's going to happen before class just jumps right into it. Overall, this class helped me to learn a lot and I believe there is not a ton to fix.