MET330 Fluid Mechanics Test 1 Reflection Robert Morris 10/11/2022

Course objectives

This test demonstrates the progress towards the course objectives of knowing how to describe fluid properties, calculating pressure and force, and identifying and solving specific industrial problems. The first question of the test was focused on fluid properties and using pressure in calculations. While the second problem was a seemingly complex question that involved a complete fluid coolant system.

Comparison

When I first looked at the test solutions, I thought I got this question wrong, but when I went back to write this reflection and looked at the solution much closer I realized I had gotten at least some of it correct. I made a mistake when calculation the height for the gasoline, but was able to correctly calculate the height for the mercury. The reason I got the height of gasoline wrong was that I tried using a simpler formula instead of the monomeric equation. My excel spread sheet also was not well organized at all, and I should have gone back and cleaned it up after I was finished with the second problem. Question two was a different story. At first glance, I see an error I made, I misunderstood exactly how much of the piping I was supposed to replace. Looking at it now, the only things I did right was pulling the values for the pipes from the book index. I felt confident in how I used excel, but the formatting still needs work. I misunderstood most of what the problem was asking me to do. The reason I made mistakes in both problems was that I simply underestimated the difficulty of the test. I tried using equations that were simple because I looked at the variables I had and thought the problems were not that difficult. If I could go back, I would tell myself to study harder and look through the problems in the book, as a few them could hopefully be similar to the test problems. Going through the test rubric, I would say I got a 52.66 on the test, which seems too high to me.

Discussion

While completing the test I had no technical issues, and only had some trouble on the second problem. When I sat down to take the test, I worked on it for five hours straight. I looked through the book and my notes to find equations and the meaning of certain symbols. One concept I feel I developed over this test was using imperial and metric system of measurements together, though that may be one the reasons I did poorly on the second problem. I am unsure if I will ever use what I learn in this class, as my preferred career will be designing individual components and products that may not use fluids. However, if I were to design something like a car it may be valuable to know how to design the piping for various fluids. I think engineers that use these concepts are probably in the automotive or HVAC industry, I also know wind turbines use fluid that would likely need a pump system.