Individual Reflective Learning Journal

Entire Course

Note: this page is expandable. Write as much **specific** information as you can, stated concisely.

1. **What were the most important items of knowledge that you learned in this course?**

The most important item of knowledge I learned in this course was good coding practices. The present and future of engineering is highly infused with technology, and being a good engineer involves being proficient with computers, which run off coding. Smart coding practices like variable initialization, commenting code, not hardcoding numbers into the code, and breaking things into sections are all smart coding practices that I learned in this course.

2. **Why was it important to you to learn them? Please use examples to illustrate your reason.**

It was important that I learn these practices because as a mechanical engineer, I will not have to be the best coder in the world, but it is still important that I know how to be smart about it so that if someone else must fix my code, it is easier for them and they do not have a more difficult time than is required. As I said, the future of engineering and technology overlap quite a bit, and most engineers use a computer to do most of their daily work. Knowing how to tell computers what to do can be valuable, as well as understanding how they do what they do in order to be able to fix anything that goes wrong. I will also have to code in multiple classes in the future in my academic career, in which case knowing these smart coding practices will be very beneficial to me.

3. **How could you use this knowledge somewhere outside of this course, such as in another course, a job, at home, etc.?**

This summer in my internship, I will be doing a lot of coding. I will be working at a small engineering firm, and I will be doing a lot of website development and running complicated calculations. I will learn a lot on the job about what I am expected to do, but smart coding practices will help me learn faster and make it easier for me to fix my mistakes.

Also, next fall I am going to be on co-op with GE Aviation, and I will likely be doing a lot of work involving computers, including potentially some coding. Also, while I am on co-op, I will be taking a programming class online, so I will not have a teacher to ask questions to in person. This will make learning it slightly more difficult, so smarter coding practices will help me fix problems I encounter more easily. Knowing these smart coding practices will make troubleshooting my codes and trying to fix what I do not have quite right much easier, and it will make repurposing modified parts of old codes that I will have written easier than if they were full of numbers or calculations all in one big step.

4. What did you learn in our course that you still find difficult?

I still find dimensioning multi-view sketches to be difficult. I have no problem with drawing or visualizing the sketches, but when it comes time for me to dimension them, I am not confident in my abilities. I always doubt myself and often end up over-dimensioning or leaving out something vital that I thought would be an over-dimension. I took a class in 3D modeling with SolidWorks in high school, and part of the class (before we ever saw computers) was sketching. I did very well on this, but we did not have to follow dimensioning guidelines, my teacher just wanted enough information to be able to be able to tell how big it was, and he also had us draw on graph paper in certain scales that he instructed us to use. Dimensioning with proper technique was foreign to me, and I am still struggling with it.