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Reflection Essay

IDS 493

**Introduction**

 While studying cybersecurity at Old Dominion University, there were a few certain topics that stuck out to me. One of these topics was python, a programming language that is increasingly getting popular. I learned a lot about basic python basics and overall understanding of the programming language my sophomore year. Another topic that stuck out to me is the TCP/IP protocols along with their layers. Having this knowledge should help me be more successful in a cybersecurity environment. Lastly, another topic that hit my interests is work inside Wireshark, mainly being incorporated with virtual computer systems. Overall, these three subjects struck me the most and they surely educated me the most.

**Python Programming**

The class I learned about python the most was a class titled basic “Cyber Programming and Techniques”. This class was difficult so I really had to apply effort and study, leading to me to understand basic concepts of python and understand how to use it, respectfully. Python is a popular programming language and, in my opinion, it will take over for the most popular programming language in the world, beating JavaScript. Python is well-built which helps users understand what’s happening in the program without looking up so many different meanings or codes. It uses real world words for users to better incorporate the program together. The professor was helpful in solving issues so I used that to my advantage as much as I could. On multiple occasions I would get stuck somewhere in a program or task, and not have much assistance at home as no one in my family was familiar with python. I set up meetings and stayed after class to put forth effort in understanding python and its strong capabilities. Furthermore, python is intriguing to me and I believe I would enjoy continuing to study it and therefore, it is one my skills.

**TCP/IP Protocols & Layers**

 When someone begins their cybersecurity learning experience, I’d be shocked to hear they didn’t hear about TCP/IP layers and their protocol definitions. Understanding this layer can adequately prepare someone for network related problems and circumstances. The model, also called an OSI model, is essentially the building blocks of network communication. Understanding how these communications are made would be impossible to happen without this OSI model. It conveniently separates certain aspects of the communications to help people understand what happens when a host and server meet and talk to each other. The class I studied this OSI model the most in was a class titled “Introduction to Networking and Security”. My dad is a network engineer and works for the government, and once I began having trouble with this model and its attributes, my dad was glad to step in in help, as he knows the OSI model like the back of his hand. This was my main source of assistance and without my dad I wouldn’t have gotten near as good of a grade as I finished with. I am glad this class heavily stressed the OSI model as many cyber professionals I’ve talked to praise the model for its usefulness and convenience.

**Virtual Computers / Wireshark / Linux**

 Only one class stressed work and studying on virtual systems, and the class was titled “Cyber Techniques and Operations”. Virtual systems were heavily stressed and once I got used to them, I was able to understand the goals of the assignments. Using these virtual systems can be very helpful in certain job situations and I have also heard that virtual systems are substantially used in the cyber industry. I have been told that understanding virtual systems, as well as knowing how they work, how to turn them on/protect them, use them, connect them with other virtual databases, etc. can be an eye-opener to companies and can help land a job much faster. Many times I was dumbstruck with the difficulty of the class but I usually result it to the not so helpful professor. Certain types of material can be taught, other types can be taught but it takes extreme effort from both sides, as in the student AND the professor. For this class, the professor was sadly not helpful nor were his teacher assistants. I did my best and passed the class, but even then I didn’t feel like I did everything the right way. However, even with my struggles, I feel like I could be successful learning virtual systems and working with them. Showing businesses and companies that I can work with this kind of work should be intriguing, and once I display my knowledge of the material, I’d hope they like what they see/hear. Overall, I do not completely understand virtual systems and how they work but I do believe I’d be skillful in an environment designated for virtual systems focus. I feel like I work good with it and over time, I’d become successful with it.

**Conclusion**

 Old Dominion has taught me many aspects about cybersecurity and its implementation into society throughout my time at the school. Three subjects stuck out to me and I believe they are my best skills on what I’ve learned. They include python programming, the OSI TCP/IP model, and virtual computer systems and their usefulness. These three topics were the topics most strongly advised to learn and be comfortable with. The classes prepared for the next, each one slowly building my cyber knowledge and preparing me for a cyber-oriented job. Other classes, involving things like interdisciplinary studies or public speaking, helped prepare me on how to understand cybersecurity and treat it with caution while also pushing hard to understand it. Many classes throughout my time at the school put me through a lot of stress; a lot of effort was needed to push through issues and mistakes to be able to stay atop of maintaining good grades. Each professor had their ups and downs but ultimately, each professor was semi-helpful and overall easy to understand and get through the class without completely not knowing what to do. Overall, with everything I have learned at ODU I would have to label these three subjects as my skills.