Reflection Essay

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Skills Learned from Courses

Throughout all of our lives, we are learning new things daily and applying them into our lives or class courses. My academic career has reflected this by the assignments students have to do, where we have to use what we have learned in order to complete it. Some skills could be used in a general setting, but others would be based on my future job/career. These skills are Familiarity with Virtual Machines, Understanding Operation Systems, and Malware Detection/Prevention. These three skills are some of what I have learned within my class courses and in the real world.

Skill #1: Familiarity with Virtual Machines

This skill is mostly specific to those within the cybersecurity or other technological fields and requires years of experience/practice to get good at. My experience with virtual machines did not start in college, but instead was at summer camp in 2016. For the month that I was there, I learned the basics of coding and networking. However, it wasn't until college that I learned the

harder parts of working with virtual machines. The first supporting artifact is a module 9 lab that I did in my cybersecurity fundamentals class. We had to look at the C programming code given to us and answer the five questions based on what we were looking at. The second artifact is an assignment involving Firewall and Network Setup. In this assignment for my Cyber Techniques and Operations class, the student was required to use external kali, ubuntu, and windows server 2022 to do a network scan with and without the firewall turned on. The last artifact for this skill is my SQL Injection Attack Assignment for my Ethical Hacking class. This project was for me to use what I've learned to have hands-on experience with web security and SQL injection attacks.

Skill #2: Understanding Operating Systems

This skill is more so a requirement for students in general because most things are now done online, through operating systems. The first artifact that supports this is knowing how to use Linux (Virtual Machine). In almost all of the classes I have taken for my cybersecurity major, it has been a requirement to learn how to install and figure out how to use the linux virtual machines for our assignments. Our teachers taught us how to do the basic commands for the course by providing us step-by-step instructions in order for us to understand what/when we should apply these commands to. Next, the second artifact that helps with understanding operating systems is taking a class on Microsoft Windows Management Systems. I took the class on Windows Management Systems mostly because I was interested in the challenges within the course but also to gain skills/information that could benefit me in the future. In the class, we discussed the management systems and its features that make up the Windows Operating System. One assignment that helped me familiarize myself with the subject is the final essay

project I wrote about how teaching seniors about cybersecurity and specifically Microsoft, can benefit them in the long run.

Finally, the third supporting artifact for this is using ChromeOS. I started working with ChromeOS in middle school due to having to use the computer for our tests. As the years went on, ChromeOS became a main source for doing my assignments for my classes. This is because after COVID, everything was required to be submitted digitally instead of doing the work on paper. Being forced to learn how to use google docs and the other applications, helped me familiarize myself with the Chrome Operating System.

Skill #3: Malware Detection and Prevention

Having the skill of being able to detect and prevent malware from spreading is an especially important thing within cybersecurity. The first supporting artifact is learning about malware and other types of cyberattacks. When being taught about it in the ethical hacking class, we discussed what malware was, the other types of attacks similar to it, and what things would motivate an attacker to use these techniques. This allowed for us to know their perspective when doing the assignment related to it. The next supporting artifact is knowing about vulnerabilities. This is similar to learning about malware but this time we learned about the different types of vulnerabilities and how they could affect our systems. We learnt the differences between the two with an assignment on vulnerabilities, which

The last supporting artifact is the malware analysis assignment that involved (safely) downloading two types of malwares from a website called bazaar and another one called any.run. The purpose of this assignment in ethical hacking class was to compare the malware from the two sites and see the similarities and differences from each other.

How did these skills make me successful

Considering all the skills listed above, the courses, and the program, they all have been the tools that helped me to become great. All three skills are all very important because they reflect that I can be an excellent candidate for future employers and also show that I've always applied what I've learned from my classes. Nevertheless, it also reflects that my class courses are all related to one another, even though they are specifically focused on different topics within cybersecurity. With the interdisciplinary studies classes that I have taken this semester, they have offered me many methods and theories of how to better apply myself and understand the coursework of my classes or daily life. These methods and theories, such as education or research have been good for providing me with integrating knowledge from drastically different courses such as art/history with cybersecurity with their outlooks on solutions and creativity. These courses have also given me some of the soft skills that I otherwise would lack or not have in, for example communication, flexibility, and time management. In conclusion, if I did not have these courses, skills, or the program then I would not be where I am today.