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08/4/2025

ODU Summer 2025

Final Paper

Old Dominion University, Information Technology Services (ITS)

Desktop Support Group

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Introduction

For the past 150 hours, I have had the opportunity to work at Old Dominion University Information Technology Services (ITS) in the Desktop Support Group. I chose to work at this company because, as a Cybersecurity major, the opportunity to learn about the networking and hardware side of technology can help me later in my career. Knowledge is power, and learning as much as I can about technology will help me become a well-rounded security professional. In this company, I learned foundational networking, software, and hardware practices, such as working with a ticketing system, wiping/removing hard drives, installing programs, enrolling devices into Intune, Jamf, and Apple School Manager, and setting up office/lab rooms.

Since this company is located on Old Dominion University's campus, we typically work with staff and student devices. My main goals for this internship were to:

1. Improve Troubleshooting and Diagnostic Skills
2. Enhance Communication and Customer Service Skills
3. Develop Proficiency in Desktop Support Tools and Technologies
4. Understand IT Service Management Processes

2. About the Organization

Upon being hired at this company, I discovered there were separate it teams in each campus building. I was assigned to the AL shop, which is the IT department located in the Batten Arts and Letters building. Every department has its supervisors, and mine were Spencer and Ryan. These gentlemen made integration into the organization seamless. I felt welcomed by everyone, and they were always willing to help and explain any questions I had. This positive energy was found everywhere in every department. While I was nervous at first, I can say ODU ITS is the perfect environment for a student intern.

3. Initial Orientation and First Impressions

My first few weeks consisted of signing paperwork and learning the systems we use for communication and research. In orientation, I learned about our ticketing system, which is the way we keep track of everything that is being worked on. This system triples as a record, an organizational tool, and a simple research system. We can use the system when communicating with a client, looking for previous tickets and devices we worked on, keeping track of current tasks, assigning tasks, etc. We can also access the Knowledge Base research system through the ticketing system. The knowledge base system allows us to research how to complete tasks on ODU's Campus and contains processes specific to ODU devices. The KB system is updated by our TSP members consistently. Learning how to use this resource was a game-changer and reduced troubleshooting efforts. It helped me learn ODU's processes and device functions faster. Following the steps in the articles was easy because they were clear, concise, and often contained pictures. Lastly, during training and orientation, I learned how we use Microsoft Teams to connect with each other. We have multiple group chats for different needs, including one for

troubleshooting, student worker tasks, a big chat dedicated to happy birthdays, congratulations, and fun topics, and one group chat for just the AL shop members.

4. Management Structure and Supervision

ODU ITS has excellent management. Our management team congratulates you on your accomplishments, provides clear and concise instructions on how to complete student tasks, is always willing to help, and is sympathetic to our personal lives. As stated previously, we have our director, who is Charlotte, and below the director and her team, each department has its supervisors. Underneath those supervisors is where I stand as a student worker. Although it is a small Workforce, the environment simulates real-world work. The supervisors do not micromanage you and allow you to troubleshoot and grow at your own pace. In this environment, we care about each other and help one another when needed.

5. Internship Responsibilities and Projects

As a student worker, my primary work duties included transporting equipment, wiping and removing hard drives, enrolling devices, communicating with clients, creating and completing tickets, managing property control, collecting data, and checking warranties. To find what job to do that day, we checked the student worker chat, where supervisors from all departments upload tasks that need to be done, and as a student worker, I can assign myself to the task and complete it for them. This also helps us avoid boredom and unproductiveness.

While I did have many assignments and projects, my top three were setting up offices for new hires, property controlling devices, and port activation. My favorite project was setting up offices for new hires. The supervisor in the education building was told we had six new hires starting in 3 days. He placed a student task in the group chat, explaining the separate offices and how to get the tags done. This task included scouting out the offices and identifying the necessary equipment, setting up the workstations, and testing the devices to ensure easy use and access for new hires. Each office was required to have two monitors, one keyboard, one mouse, and one docking station. Other equipment included cables to connect the computer to the donkey station and cables to connect the monitor to the Ethernet. This project was enjoyable, and I got to work with my fellow interns. Meeting the other interns made the work environment 10 times better because I got to make friends and work on my collaboration skills.

Secondly, one of my assignments was property control. Property controlling devices included wiping or removing a computer's hard drive, then taking down essential information, including the serial number, computer name, and model. After doing so, I would open a ticket with the Department DSG tools and services and allow them to remove the device from our InTune or Jamf/ASM system. Upon doing so, I create a property control form and close out any previous tickets. Once those are finished, we are able to ship the computers to the procurement Center, where they can be auctioned off or sold. With many devices going out of warranty after 5

years, this is a constant assignment that I have in the different departments. When I first started working, I only did devices in the AL shop, but now that I am more experienced, I work with all devices, even some that have been stored for years. The oldest computers I had to wipe were from 2013, and they were stored in a closet in the constant hall.

Last but not least, a big part of my major assignments is collecting data to complete tasks. One of these assignments included getting all the port numbers from a lab building so that the ports can be activated to set up a temporary office for users while the building gets renovated. All of these assignments and projects are important to ensure the smooth running of ODU's network, ensuring the success of both staff and students. My tasks as a Student worker have helped keep ODU's Network up-to-date and less vulnerable to exploitation.

6. Use of Cybersecurity Skills Before and During Internship

Before I began the internship with ITS, I had soft skills in communication, collaboration, critical thinking, adaptability, problem-solving, and attention to detail, and technical knowledge in network security, understanding of operating systems, and cloud system management. On the job, I got to put my skills to the test in a real-world environment. Every day, I had to use my soft skills to work with my team members and clients and to overcome obstacles I may face when working with different devices. During my internship, I was able to hone my soft skills while applying and learning new technical skills.

I had studied operating systems and network fundamentals. I had learned about access control policies and patch management. On the job, I applied all those skills. I enrolled devices in Intune and Jamf, which allowed ITS to push updates and enforce security policy. I watched how patch deployments were scheduled and deployed.

I also gained new skills. I became proficient with a ticketing and knowledge-based system, tools I had never used before. I learned how to wipe drives securely using the standard tools so that data is not recoverable. I watched supervisors use recovery keys, and there was a requirement to log every device move or wipe for 120 days.

This job taught me that security is more than passwords and software. It includes how devices are tracked, updated, and retired. I now understand device lifecycle management in a campus environment. Policies about warranty timelines, lease agreements, and disposal procedures became part of my daily thinking and assignments. I started to think like a security professional and protector of ODU’s network.

7. Connections to ODU Curriculum

My coursework at Old Dominion University laid a strong foundation in cybersecurity Fundamentals, particularly in the areas of risk management, access control, and network defense. Through classroom instruction, I became familiar with the TCP/IP model, which provided an

understanding of how data flows through networks and where potential vulnerabilities might lie. Additionally, I gained experience with network troubleshooting and tools, as well as vulnerability assessment strategies.

These concepts were directly applicable during my internship. When setting up lab and office environments, I had to work with all layers of the TCP/IP model. For example, I had to install programs at the application layer. Along with the installation of equipment that works to connect the five layers of the TCP/IP model, I get to watch the data flow and gain a better understanding of the way our devices function and how to fix the issues that can occur.

The structured troubleshooting methods emphasized in class, such as isolating variables to identify root causes, also proved effective. When I encountered devices that failed to join the domain or refused to enroll, I used a process: first verifying physical and network connectivity, then checking user credentials, and finally inspecting default configurations to ensure the device functions properly. This approach enabled me to resolve issues more efficiently and with greater confidence.

That said, the internship introduced me to tools and operational practices not covered in the classroom. Products like Jamf and Apple School Manager were essential in the macOS environment but had not been included in the Windows/Linux-focused coursework. Gaining hands-on experience with these tools broadened my technical abilities and exposed me to a more diverse range of systems. This provided me with a better understanding of Apple's operating system, as well as provided me with examples of network Management systems that can be found in real-world environments.

I gained a better understanding of the role of documentation, more specifically, knowledge base (KB) management. My coursework emphasized technical proficiency and the Need for cybersecurity governance and organization. In my internship, I got to see firsthand the importance of maintaining clear, up-to-date internal documentation. In the workplace, I contributed minor edits to KB articles and witnessed firsthand how clear documentation improves operational efficiency and reduces time spent on repetitive tasks. This experience emphasized the real-world value of communication and collaboration skills in technical environments, an area I now recognize as essential to cybersecurity operations.

8. Reflection on Learning Objectives

Objective 1: Improve troubleshooting and diagnostic skills

A big part of doing this internship was improving in troubleshooting and diagnostic skills. In a real-world tech environment, it is vital to be able to use critical thinking and problem-solving skills to fix device software and hardware issues. I met this objective by working on many device types and OS versions. I used the knowledge base to guide tasks and then used trial and error for unknown issues, such as older hardware compatibility.

Troubleshooting became an everyday task, whether it was with software or Hardware equipment. Each ticket helped me build confidence.

Objective 2: Enhance communication and client service skills.

I fulfilled this by guiding users through software installs, resets, or login issues. I learned to ask clarifying questions and avoid jargon. For example, I learned to say “MIDAS ID” instead of “Active Directory credentials” to help non-technical users. I built rapport quickly, and I tracked client feedback in the ticket comments. While completing this objective, I continue to hone my customer service skills. Although my team was full of kind people, we encountered a few unkind clients, but I was able to complete the job without problem by working on my conflict resolution skills. I learned that non-technical users often don't understand processes and would prefer that things just work, and are not concerned with how they work.

Objective 3: Learn desktop support tools and technologies

By the end of the internship, I had enrolled dozens of devices in Intune, Jamf, and Apple School Manager. I could escalate device issues effectively. I also learned the software that queries warranty status and asset serial numbers tags. I became comfortable with tagging and ticket closing procedures.

Objective 4: Understand IT service management processes

I gained experience moving work through ticket queues and the software in Intune and Jamf, and I learned escalation guidelines and timing expectations. I saw how supervisors report response statistics and SLA performance. I realized that closing a ticket cleanly keeps service metrics accurate, avoids repeat work, and leaves behind a clear record in case another TSP member has to use that ticket for work on the device in the future.

9. Most Motivating or Exciting Aspects

The most exciting part of the internship was working on the office setups. I remember bringing in all the computer monitors, cables, and docking stations, coordinating in building hallways, and setting each workstation up precisely and quickly. I saw dozens of devices appear from boxes to live computers in an office in just one afternoon. It felt rewarding to know the staff would have a ready-to-go workspace when they arrived.

Working with other interns made it extremely fun. We compared notes about what worked best, and the environment felt energetic. I also felt motivated when wiping old machines and seeing billions of years old data erased and devices prepared for sale. The idea that I helped recycle hardware while keeping sensitive data safe had a real impact.

Completing port collection assignments made me feel like part of the infrastructure team. I was walking through labs and hallways, mapping Ethernet ports to ensure a smooth network

refresh. I was consistently complimented on my work, which made me feel reassured in my career. It was exciting to realize that I really do love technology, and I chose the right major.

10. Most Discouraging Aspects

Some tasks felt discouraging at times. When parts were missing or damaged, a task would stall, and I had to wait for a new order before I could finish the ticket. That slowed my momentum.

Sometimes the description in a task request lacked details about which office new hires were in or what software they needed. I had to spend extra time requesting clarification. Long waits for device shipment or missing asset tags were discouraging.
Also, transitional periods between semester breaks meant fewer tasks available. While the slower pace gave me time to catch up on documentation or personal goals, I felt bored and underutilized during those gaps.

Overall, being a student worker means that I don't have the access that higher-level workers such as my supervisor and director have, so waiting on others was a discouraging part of the job. I have sometimes had to wait for access or tasks. Sometimes I would start a task, but could not complete it because there was a complication in security levels. For example, to set up an office, another intern and I had to travel across the campus and request access from a woman who should have been working in the building that day. When we got there, we found out she actually hadn't come into the office, and we would have to wait another 3 days in order to complete the task. It felt like a waste of time and energy.

11. Most Challenging Aspects

There were many challenges while working in my internship. Some were job-related while others were personal.

Firstly, one of the biggest challenges was lugging around heavy devices. A part of my job was transporting devices, including monitors, computers, cables, Etc. Some of the equipment was extremely heavy, and even having carts made it difficult to get devices across campus smoothly. Some of our carts were broken and could only be pulled instead of pushed, and sometimes the ground itself was bumpy and made Transportation efforts difficult.

Secondly, while working my first job in the technical field, I faced imposter syndrome. Although I knew I was competent enough to complete my job successfully, I still felt as though my skills were not proficient enough, and I was just piggybacking off of others. Working on tickets independently and talking to my coworkers was very helpful with this.

Thirdly, sometimes devices just don't want to work. Troubleshooting efforts became challenging with a few devices that would not allow us to wipe the hard drive. This led us to

having to remove the hard drive and go through a more complex process to properly control that device. Along with wiping issues some computers have set for an extended amount of time, and the batteries would die, so we would have to open up other computers in order to use their battery to power on a computer just for the task of wiping the device.

Fourthly, another major challenge was receiving devices and deadlines. We would often receive a device from a user, and it would have dirty or sticky keys, making it difficult to type or damage to the screen. Our department did not work in device repair, so we would have to find other ways to retrieve data from broken and dirty devices. For example, we got a device from a staff member, the screen was broken, and we only had 3 hours to retrieve all of her data because she had an important deadline that same day. We had to recover the data and then send it through a OneDrive folder to allow her to complete her essential task.

Lastly, scheduling is a significant challenge when trying to complete tasks. We have to work on the schedule of the client, and most times, schedules don't align as we would wish.

12. Recommendations for Future Interns

If I had a chance to advise the next student workers in the ODU ITS Department, I would tell them to prepare ahead, read KB articles in their free time, save/bookmark important sites, take equipment inventory for device setups, keep notes/take pictures, practice communication, and take every opportunity to learn.

Prepare Ahead: To be ready to work in ITS, get used to Microsoft Office and Teams. You will consistently use these applications for tasks and team communication. Keep a notebook and pen handy and clear up some phone storage. You will have to write things down and label items constantly. The phone storage is for all the pictures you will have to take of devices, rooms, ports, Etc.

Read the KB Articles in free time: The KB articles, although they are ODU-specific, contain a plethora of Vital Information. When you are in training, I would recommend asking your supervisor about the three main KB articles you will have to use and read those to ensure you understand the basics of the main tasks you'll be given. For example, I would say to ask for the KB article on wiping Windows versus Apple devices first.

Save/Bookmark important sites: Working in your specific Department, you get your workstation. After being told the essential sites, I would tell any new intern to bookmark the important documentation forms and ticketing system dashboards for easy access. Logging in and having to find the link was so difficult for me in the first few months of working, and to help anyone avoid the mistakes I made, I would tell them the first thing to do is bookmark these important sites.

Take equipment inventory for device setups: Lab and office setups are a consistent task for student workers. To be prepared for this kind of assignment, I would tell the student worker to take an equipment inventory of the location to find out what equipment they will truly need to get the job done. For a few of the setups I had to do there was already equipment in the room and I would end up having to lug equipment back to my department because I took more than I needed. to avoid the struggle of transporting heavy devices in hot or cold weather I would suggest taking a first trip just to inventory what is needed and save yourself some time.

Keep notes/take pictures: When visiting different locations for data collection, I would tell any new student worker to take pictures or keep very detailed notes of everything. For example, when collecting port numbers for activation, also take note of the kind of room it is in. If a port is in a kitchen area, put down a small note for the activation team so that whoever gets the task later to build the office has an idea of what they're walking into. They will appreciate it, and you will get more experience with communication and collaboration. Not to mention, most likely a ton of gratitude from every angle.

Practice communication: Work on talking to everyone in the ODU ITS and help desk Department. Communicating is so important when trying to complete tasks, and the work environment is better when you have friends. The whole point of an internship is to learn and eventually be offered a full-time job. To achieve this, communicate to make yourself known, build a strong reputation for being on time, a hard worker, easy to work with, curious, and invested in the job.

Take every opportunity to learn: Working at an internship is all about learning and honing your skills. My last piece of advice is to take every opportunity to learn for any student worker coming in. Do everything you can; ask questions, troubleshoot, research, and don't be scared to fail. Failing is just one way you learn that it did not work.

13. Conclusion: Takeaways and Impact

My 150-hour internship experience at ODU ITS Desktop Support Group reinforced how classroom training and theory connect with real-world IT support. I improved both technical and soft skills. I now know how an organization manages device enrollment, pushes updates, and safely removes old hardware.

Looking ahead, I will use this internship to guide my coursework choices. I plan to take incident response and infrastructure security electives to build on what I learned. I intend to use the same ticketing discipline and plan for patch control systems in future roles. I also enjoyed working in it to gain that networking experience that isn't always broadcast in cybersecurity. My

next learning adventure will be ethical hacking and penetration testing to dip my toes in every pool.

For my professional path, I can see myself working as a security operations center analyst or network security administrator. The hands-on device knowledge and ITSM understanding give me confidence that I can support both technical tasks and process compliance.

Thank you to ITS for giving me a supportive learning environment and for giving me the chance to grow in confidence and skills. This experience has made me better prepared to continue my journey at ODU and beyond the classroom.