**Academic Projects**

Network Design Lab Project

This involved total cost plan spreadsheet, addressing all the needs of a customer including cost efficient commercial grade equipment, networking diagram map, business plan to adapt the growth of business, network improvement management such as back up network devices and redundant ISP connection. Plan needed item description, model #, quantity, unit cost, total cost, and url for price.

Network map including isp, firewall, WAN, LAN internet through ethernet, and VLAN connection. Connection to router, switch, access points to company phones and computers through a business model floor plan with different offices and networking closet. Network and port connection and management. Selection of equipment such as selection of switch model and price, router selection, firewall selection price and assistance, WAP selection and model assistance, and VoIP phone selection assistance. Map needed correct device icons, device labels, manufacturer model, correct connections between devices and device labels.

Cisco Packet Tracer

This included a simulator that allowed you to connect, configure networks, cloud, ISP, troubleshooting IP addresses, port management in a virtual environment. Network infrastructure and documentation. Addressing on Networks. Network protocols and routing.

Bid Spec Project

This involved the implementation of a complete physical cable plan and map for a school building. Entails detailed description of media used, closet location, cabling routing, end user termination, and cable certification techniques. Also entailed cabling estimation for horizontal backbone, patch panel layout, and cost sheet with product names, model #, Total Cost, and source. Map has location of closet(s), routes of the horizontal, backbone, and cable trays/support. Included a project plan timeline with a gnat chart on how the planned project will be implemented for the customer. A Cablofil Load Table for type and size of cable tray. Finally, an equipment rack drawing and equipment installed in each closet of plan that shows patch paneling, wire management, location and equipment.

Linux Server Project

Installation and configuration of a Linux server operating system. This involved the use of a secure shell (SSH) to connect to a remote Linux system. Navigation of command line interface (CLI). Management of creating, copying, renaming, deleting, files. Modifying file and directory permissions. Vi editor. Redirect input, output, and errors. Writing basic shell scripts. Creation of administration users, implementation of system backups, web application php on apache, domain services (DNS), and basic implementation of database (MySQL).

Windows Server Project

This involved the creation and management to a local area client/server networking using the current generation of Microsoft Windows Servers. Implementation of server management through AWS. Learned the necessary skills to install and configure the current Microsoft Windows operating system on stand-alone and client computers that are part of a workgroup or domain with emphasizes on configuration and administer Active directory. Also included connecting clients running Windows server operating systems, creation of user accounts and groups, management of access to resources by using groups, management of data, security through group policies, documentation, and configuration of printing and disk management.

Cloud Computing Research Project

Documentation of the impact and importance of Cloud Services and virtual servers on an organization with emphasis on issues related to Cloud Computing, how to fix, update, and or replace. Why it is important, and how it will impact organizations today and in the future.