**Methodology**

Given the aforementioned scenario, we are going to use the 192.168.0.0/24 network and create a total of 8 subnets, with 25 hosts on each subnet. The chart below describes structures the scenario to include each subnet and required hosts.

|  |  |
| --- | --- |
| **Subnet Description** | **Required Hosts** |
| Students in Classroom 1 Computer Lab | 23 Computers |
| Students in Classroom 2 Computer Lab | 23 Computers |
| Students in Classroom 3 Computer Lab | 23 Computers |
| Students in Classroom 4 Computer Lab | 23 Computers |
| Students in Student Computer Lab | 24 Computers |
| Public Access network | 20 Computers |
| Equipment | xx Network Peripherals (servers access points) Computers |
| Staff Office / Admissions Network | xx Computers |

(Using the How to Subnet a Network Video provided in CMIT 265 LEO - Content - UMUC Network Design Proposal, **complete the following chart**.)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Network Address** | **Host Address Range** | **Broadcast Address** |
| Subnet Mask: 255.255.255.\_\_224\_\_\_ | | | |
| Classroom 1 | 192.168.0.0 | 192.168.0.1 – 192.168.0.30 | 192.168.0.31 |
| Classroom 2 | 192.168.0.\_\_32 | 192.168.0.\_\_ - 192.168.0. \_\_62 | 192.168.0.\_\_63 |
| Classroom 3 | 192.168.0.\_\_64 | 192.168.0.\_\_ - 192.168.0.\_\_94 | 192.168.0.\_\_95 |
| Classroom 4 | 192.168.0.96 | 192.168.0.97 – 192.168.0.126 | 192.168.0.127 |
| Student Computer Lab | 192.168.0.128 | 192.168.0.129 – 192.168.0.158 | 192.168.0.159 |
| Equipment | 192.168.0.\_\_160 | 192.168.0.\_\_ - 192.168.0.\_\_190 | 192.168.0.\_\_191 |
| Library Lab (Public Access) | 192.168.0.\_\_192 | 192.168.0.\_\_ - 192.168.0.\_\_222 | 192.168.0.\_\_223 |
| Staff Network | 192.168.0.\_\_224 | 192.168.0.\_\_ - 192.168.0.\_\_254 | 192.168.0.\_\_255 |