

# CYSE-250-Basic Cybersecurity Programming and Networking

## Assignment-1

### **Case Project:**

In the following assignments, you consult for the newsroom of the Franklin Daily Herald, a newspaper in a Midwestern U.S. city that is still thriving because of its close ties to the community and first-rate reporting. All of the news reporters have laptop computers, and now their management has funded a project to network the entire newspaper building. Having a network that links all of the departments and enables company-wide exchange of information and Internet access will help position this newspaper to stay competitive with other news sources.

### **Case Project 2-1: Expanding the Network Backbone**

There is already a partial network backbone using Ethernet in the newspaper's building that joins some of the administrative and advertising offices. Prepare a report or slide show that explains why Ethernet is still a good choice for the network backbone.

### **Case Project 2-2: Creating a Network That Can Communicate with Other Networks**

The management wants to know if there are any guarantees that the network you are proposing will communicate with other networks. What is your response?

### **Case Project 2-3: Questions About the OSI Model**

Brett Mason, a new colleague with whom you are working at Network Design Consultants, is unsure about some aspects of the OSI model. He has a list of questions for you and asks that you develop a table that he can use as a reference for the answers. Create a table containing two columns and seven rows. Label the left column "Network Function," and label the right column "OSI Layer." Enter each of the following functions in its own row under the left column, and then specify the OSI layer that performs that function under the right column. Brett's questions about functions are as follows:

- Which layer resizes frames to match the receiving network?

- Which layer performs data compression?
- Which layer ensures data is received in the order it was sent?
- Which layer handles the data-carrying signal?
- Which layer provides file transfer services?
- Which layer enables routing?
- Which layer enables the receiving node to send an acknowledgment?

### **Case Project 2-4: More Questions About the OSI Reference Model**

Brett likes your table and has another question. He would like you to explain MAC addressing.